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Duolingo Mobile Application as a Learning Tool in Improving the High School Students' English Speaking Skill

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| Cristie Ann L. Jaca[1] | Milyn R. Justiniane[2] | Grace P. Gabatilla[3] |

[1,2,3] College of Education, Cebu Technological University Main Campus

[1]cristieann.jaca@ctu.edu.ph
[2]milyn.justiniane@ctu.edu.ph
[3]grace.gabatilla@ctu.edu.ph

ABSTRACT

This study investigated the use of the Duolingo Mobile Application in achieving English speaking proficiency among Grade 10 students in a public National High School in Cebu, Philippines. The researchers administered a pre-test and a post-test to compare the speaking proficiency of the two student groups. A quasi-experimental design was used in this study, which included two main variables: a dependent variable — Duolingo — and an independent variable — students' speaking proficiency. An experimental design allowed for an investigation of the relationship, if any, between the use of Duolingo and the student's overall English communicative proficiency. Based on the findings of two independent tests, results reveal that students in the experimental group were able to reach a 53.9% improvement after the application of the proposed intervention; they were able to speak with complete confidence, and their speaking fluency exceeded that of the control group participants. They were able to reach only a 10.1% improvement. Overall, there was a significant difference in language proficiency between the two groups: participants in the experimental group improved many aspects of their oral skills, whereas those in the control group faced various challenges, including poorly formed sentences, a limited vocabulary, and a lack of confidence. The researchers concluded that the Duolingo Mobile Application aids in developing the students' speaking skills. Moreover, this mobile application has proven to be an effective learning tool in improving the English speaking skills of high school students. The app's interactive and gamified learning environment, combined with immediate practice and feedback, contributed to increased learner engagement and motivation. Thus, it can be recommended as a learning tool for high school students as it has proven its benefits in improving the students' speaking proficiency.

KEYWORDS

Duolingo mobile application; English speaking proficiency; Grade 10 High School Students; learning tool

INTRODUCTION

English language teaching plays a crucial role in the education of high school students, as it equips them with essential communication skills needed for academic success and global engagement.

Because of the competition that will inevitably arise due to globalization, students must be able to speak foreign languages now. In this day of digital technology, educators must be able to follow and take advantage of technology to assist students in completing their learning activities. From generation to generation, the language is taught. Children, even before they attend school, are already exposed to the English language and may even consider it as their first language (L1). However, even though Filipinos are exposed to the English language, learners of the English language may still find difficulty in developing their English language proficiency, especially in their speaking proficiency. This could affect their performance when they enter higher levels of learning and even when they apply for jobs (Pangket, 2019). The results of the two-year study of Hopkins International Partners on the English proficiency of Filipino graduates have drawn the attention of the Senate, where in Senate Resolution No. 622, Senator Grace Poe called for an assessment of the current curricula in elementary and high school due to reports of Filipino graduates losing their global language advantage (Leonen, 2018).

Given that this is the current state of the English language in Philippine education, teachers must be able to monitor and utilize technology in this era of digital technology to assist operations in the field of education. This implies that technology cannot gauge who we are as people. This kind of rapid technological development makes it possible to use technology to advance many different facets of existence. Technology is incredibly helpful in the educational field to enhance learning activities both inside and outside of the classroom. Learning activities can be made more successful, efficient, and creative when technology is used correctly. It cannot be denied that technological advancements have an impact on the educational landscape. With online software being the simplest platform, learning a foreign language is no longer boring or challenging. Many resources are available, like Duolingo.

The study investigated the use of the Duolingo application to help students improve their fluency in the English language. Additionally, it can be used as a learning tool toassist teachers in making required modifications to their teaching strategies as well as in selecting suitable activities and teaching materials for their students. Likewise, this may also help curriculum designers assess the curriculum to see what needs to be revised and improved to increase the learners' speaking proficiency.

LITERATURE REVIEW

Duolingo has been the focus of many studies (e.g., Vesselinov & Grego, 2012; Munday, 2016, HebaBahjet Essa Ahmed, 2016). The level of development of the learners' new languages is primarily influenced by their motivation to study the language. People who are motivated are more likely to follow the program's guidelines. The participants had to use Duolingo for two months to learn Spanish. However, some of them had to be committed to the program. The findings demonstrated that most students developed over time on their own, without support or influence from other sources. The results emphasize the value of having the drive and persistence to actively and independently learn using platforms like Duolingo (Vesselinov & Grego, 2013).

The efficiency of Duolingo compared to the standard teaching approach used in Spanish university courses was studied. The study aimed to improve their learning process by not limiting it to a set number of hours, not to prepare for Spanish. It came out that Spanish learners appreciated the app and excelled beyond the necessary levels. However, advanced students had to demonstrate sufficient growth compared to first-level students, who improved quickly throughout the course. Given that students prefer Duolingo over

homework, he suggested that it be implemented in classrooms. In addition, 22 students continued to use Duolingo long after the course was over (Munday, 2016). The findings show that Duolingo may be more entertaining and helpful for learners at the beginner level than at the more advanced levels.

HebaBahjet Essa Ahmed conducted this study (2016). It looked at how to use technology to encourage language acquisition. One of the modern tools that make learning a second language more accessible is Duolingo. Thus, the study tries to support the claim that Duolingo encourages novices to learn two languages simultaneously. The findings indicated that Duolingo could support novices learning two languages, although it had restrictions. It is suggested that Duolingo be expanded to include advanced levels and English language learners. It is clear from reviewing the results of prior studies that Duolingo can aid students who are just starting their English language learning (Ahmed, 2016).

Among the devices that can be used for mobile learning, mobile phones are gaining more attention due to their prevalence among young people in schools and colleges and their use in education. The rapid development of mobile phones over the past decade has made mobile phones an efficient learning tool, from simple phones to smartphones that can act as minicomputers, phones, or cameras and can transmit data, video, and audio files turned into a tool. The language learning impact of using mobile dictionaries, as opposed to using paperbacks, was that English foreign language (EFL) learners improved their language skills more than using printed dictionaries (Rahimi & Miri ,2014).

Mobile learning technology has clear advantages for language learning. A thorough understanding of the nature of motivation and technology acceptance in mobile-assisted language learning environments can be used to improve academic performance. Mobile-assisted learning environments are claimed to have a positive impact on student acceptance, cognitive load, and academic performance. Students who enjoy using mobile learning tools are more likely to continue using them. And the more students who use these tools, the more likely they are to improve their academic performance. As long as language learning environments provide equal access and flexible learning opportunities for all students, regardless of ability, students are expected to do better academically (Ozer & Kılıç, 2018)

RESEARCH METHODS

Research Design

A quasi-experimental design was applied in this study, which included two main variables: a dependent variable —Duolingo — and an independent variable —the students' speaking proficiency. An experimental design allowed for an investigation of the relationship, if any, between the use of Duolingo and the student's overall English communicative proficiency.

Research site and respondents

The study was conducted at Tuyan National High School, a school located in the City of Naga municipality in the province of Cebu, VII - Central Visayas. On January 1st, 1980, Tuyan National High School was formed. The participants evaluated in this study are the Grade 10 students of Tuyan National High School. Participants were chosen through purposive sampling. They were divided into experimental and control groups. Fifteen students aged 14 to 17 composed the experimental group, which utilized the Duolingo application for at least 30 minutes daily for three consecutive weeks. The control group

comprised 15 students of a comparable age enrolled in the same class but did not have access to Duolingo. Each student was a native Cebuano speaker taught by the same teacher. In addition, they had similar cultural and educational backgrounds.

Data Collection

The study was conducted experimentally to evaluate the influence of a particular application called Duolingo on two dependent groups. The researchers created a self-made questionnaire to learn about the participants' profiles and administered a pre-test and post-test with the cooperating teacher from Tuyan National High School to evaluate and compare the communicative proficiency of the two groups. The researcher used a rubric adopted from Harris (1969) to analyze the participants' pre-test and post-test scores. The self-narrative was used for the pre-test and the picture narrative for the post-test. Statistical analysis was used to analyze the data quantitatively.

Data Analysis

The researchers used a rubric adopted from Harris (1969) to analyze the participants' pre-test and post-test. For each sub-skill, the participant was awarded a score out of five, with a total possible score of 25. In analyzing the numerical data, the researchers calculated the average student's communicative proficiency scores between the pre-test and post-test. They used the formulas suggested by Nana Sudjana (2002, p. 67).

$$\bar{x} = \frac{\sum x}{n}$$

$\bar{x}$: mean
x: individual Score
n: number of Students

After getting the pre-test result, the researchers identified whether there had been an improvement in the students' Scores from the pre-test up to the post-test Score. In analyzing that, they used the formula:

$$P = \frac{yl - y}{y} X\ 100\%$$

P: percentage of students' improvement
y: pre-test result
y1: post-test

The use of the questionnaire was to find out the information of students' profiles, and there were two closed-ended questions in the questionnaire. The data from the questionnaire was analyzed by using the following formula:

$$P = \frac{f}{n} x\ 100\%$$

P = Percentage
f = frequency of respondents
n = number of samples
100 constant value

RESULTS AND DISCUSSION

(introduction)

Table 1. Respondents' Profile (Age and Gender) **N=30**

	Frequency		Percentage
Gender	Male	12	40%
	Female	18	60%
Age	14	1	3.3%
	15	18	60%
	16	9	30%
	17	2	6.7%
Total		**30**	**100%**

As reflected in table 1, the respondent's profile in terms of age and gender shows that their age ranges from 14-17 years old, and most of the respondents were female. Students at this age are developing the ability to think abstractly and deal with several concepts simultaneously (Matthew, 2014). They can comprehend word meanings and contexts, recognize punctuation, and create intricate syntactic frameworks (how words are put together). However, communication is more than just using and comprehending words; it also involves how adolescents view themselves, their friends, and adults (Gavin, 2019).

Table 2. Exposure to Duolingo Application

Q1: Have you ever downloaded the Duolingo application?

Option	Frequency	Percentage
Yes	3	10%
No	27	90%

Q1: Do you consistently use the app?

Option	Frequency	Percentage
Yes	0	0%
No	30	100%
Total	**30**	**100%**

In the table above, only 10% of the population sample is aware of the Duolingo mobile application, but no student consistently used the application. According to a survey on children's online activities in the Philippines, 97 percent of respondents who utilize social media weekly are aged 14 to 17 years. While personal mobile devices have become ubiquitous (Mackay, 2014), it is time to take advantage of mobile app technologies to create new ways for students to personalize their educational experiences. Mobile app technology is well suited to facilitate student engagement with such 'chunk-sized' knowledge, leading to a better comprehension of lecture material (Lah, Saat, & Hassan, 2014).

Pre-Test and Post-Test Results

The study was conducted to see whether there was a difference between the scores before and after giving the treatment. Researchers established the criteria for mastery level to be 25. The pre-test was administered as a preliminary study before the intervention to determine the students' actual speaking proficiency. During the pre-test, the students were required to answer two closed-ended questions concerning using the Duolingo application. Students then engaged in an exercise titled "self-narration," in which they were allowed to

express their opinions by describing themselves. Their English classroom teacher evaluated them; their teacher gave scores according to the established criteria adopted from the speaking test rubric of Harris (1969). The preliminary test took place on November 21, 2022.

The post-test happened on December 12, 2022. The exam was administered after the intervention to determine the students' English-speaking proficiency after using Duolingo. On the post-test, students are required to give their opinions based on the image shown by their instructor, using the same criteria. The outcomes of the pre-test and post-test for both the control and experimental group were as follows:

Table 3. *Student's Scores on the Speaking Test*

a. *Students' scores in pre-test*

Student's Initial	Control Group	Student's Initial	Experimental Group
1. AP	13	JA	15
2. ML	13	RB	14
3. JT	15	LN	15
4. TJ	12	NV	14
5. MJ	14	JC	14
6. JA	12	JS	16
7. MO	16	JC	15
8. DA	14	JV	12
9. NP	15	MJ	13
10. LA	18	CV	10
11. VJ	12	JH	13
12. FA	16	KP	16
13. PN	16	JS	17
14. WB	13	MJ	14
15. GT	13	MC	13
TOTAL	212		211

Based on the data above, most of them struggle when it comes to speaking the English language. To get the result of the pre-test, the researchers calculated the mean score by using the following formula:

a. Control group

$$X = \frac{\sum x}{n}$$

$$= \frac{233}{15}$$

$$= 15.53$$

b. Experimental group

$$X = \frac{\sum x}{n}$$

$$= \frac{325}{15}$$

$$= 21.7$$

The data revealed that the mean pre-test score of the control group is 14.1, while that of the experimental group is 14.1. It was evident that most respondents' scores in both groups were low. This implies that the Grade 10 students must be proficient in speaking English. Mastering proficiency in spoken English takes work, and students and ordinary people spend a long time acquiring the desired proficiency (Luoma, 2014). Speaking is a notoriously complex and perplexing skill (Lazaraton, 2014).

Table 4. Students' scores in post-test

Student's Initial	Control Group	Student's Initial	Experimental Group
ML	15	RB	23
JT	15	LN	23
TJ	13	NV	24
MJ	17	JC	21
JA	12	JS	22
MO	16	JC	24
DA	15	JV	19
NP	17	MJ	21
LA	21	CV	20
VJ	16	JN	23
FA	13	KP	22
PN	18	JS	20
WB	16	MJ	21
GT	15	MC	20
TOTAL	**233**		**325**

As shown in the table, the highest score for the post-test is 24, and the lowest is 12. Most of the control group students struggled to reach 18 or higher. While for the experimental group, everyone reached the given minimal criteria, 18. The highest score is 24, and the lowest is 19. There has been an increase in students' scores after three weeks of consistently using the Duolingo application. To get the result of the post-test, the researchers calculated the mean score with the formula:

a. Control group

$$X = \frac{\sum x}{n}$$

$$= \frac{233}{15}$$

$$= 15.53$$

b. Experimental group

$$X = \frac{\sum x}{n}$$

$$= \frac{325}{15}$$

$$= 21.7$$

From the data shown above, the mean score for the post-test of the control group is 15.53, while the experimental group is 21.7. To calculate the improvement of the students in percentage, use the following formula:

a. Control group

$$P = \frac{y\,l - y}{y} \text{ X } 100\%$$

$$P = \frac{15.53\text{-}14.1}{14.1} \text{ X } 100\%$$

$$P = \frac{1.43}{14.1} \text{ X } 100\%$$

$$= 10.1\%$$

b. Experimental group

$$P = \frac{y\,l - y}{y} \text{ X } 100\%$$

$$P = \frac{21.7\text{-}14.1}{14.33} \text{ X } 100\%$$

$$P = \frac{7.6}{14.1} \text{ X } 100\%$$

$$= 53.9\%$$

The findings of two independent tests indicate that utilizing Duolingo improves the communicative proficiency of students who participated in the process for three consecutive weeks. The experimental group respondents could talk with complete confidence, and their speaking fluency exceeded those of the control group participants. The control group could not acquire oral skills due to a lack of practice opportunities; thus, their language anxiety rose as they talked. These results are consistent with those of Tsukamoto et al. (2009). The researchers found significant disparities when comparing the two groups speaking subskills. Regarding fluency and vocabulary range, the experimental group members used a much broader vocabulary than the control group. Consequently, individuals in the experimental group were proficient. In addition, participants in the control group often fumbled over their phrases and struggled to come up with alternatives. In addition, individuals in the experimental group used well-formed sentences more often than those in the control group. Overall, there was a significant difference in language proficiency between the two groups: participants in the experimental group developed many aspects of their oral skills, while those in the control group struggled with a variety of obstacles, such as poorly formed sentences, a limited vocabulary, and a lack of confidence.

CONCLUSION

The study showed that the students who used Doulingo regularly demonstrated significant improvement in the key aspects of speaking proficiency, including pronunciation, vocabulary usage, fluency and confidence in oral communication. The Doulingo mobile application has proven to be an effective learning tool in improving the English speaking skills of Grade 10 high school students. It can be concluded that the use of Duolingo mobile application demonstrate significant improvement in developing the students' speaking skills. In addition, this mobile application improves students' speaking abilities

and can be recommended as a tool in achieving the Grade 10 English MELC. Overall, the Duolingo Mobile Application is beneficial in improving the student's speaking proficiency thus can be considered a valuable supplementary tool in English language instruction, particularly for enhancing the students' speaking abilities in a flexible and learner-centered manner.

REFERENCES

Ahmed, H. B. E. (2016). Duolingo as a bilingual learning tool: A case study. *Arab World English Journal (AWEJ)*, *7*(2), 255-267. https://dx.doi.org/10.24093/awej/vol7no2.17

Gavin, T. (2019). *Social dynamics and communication in adolescence*. Routledge.

Harris, D. P. (1969). *Testing English as a second language*. McGraw-Hill.

Lah, M. S., Saat, R. M., & Hassan, A. (2014). Mobile learning: Students' perceptions and readiness in secondary schools. *Procedia - Social and Behavioral Sciences*, *147*, 369-375. https://doi.org/10.1016/j.sbspro.2014.07.114

Lazaraton, A. (2014). Speaking assessment. In A. J. Kunnan (Ed.), *The companion to language assessment* (pp. 1–15). Wiley.

Leonen, J. (2018). Inquiry into the decline of English skills of PH studesoughtough. https://newsinfo.inquirer.net/

Luoma, S. (2014). *Assessing speaking*. Cambridge University Press.

Mackay, M. (2014). *The ubiquitous world of mobile devices: Personal technology in the 21st century*. Oxford University Press.

Matthew, J. S. (2014). *Cognitive development in late childhood and adolescence*. Academic Press.

Munday, P. (2016). The case for using DUOLINGO as part of the language classroom experience. *RIED: Revista Iberoamericana de Educación a Distancia*, *19*(1), 83–101. https://doi.org/10.5944/ried.19.1.14581

Ozer, O., & Kılıç, F. (2018). The effect of mobile-assisted language learning environment on EFL students' academic achievement, cognitive load and acceptance of mobile learning tools. *Eurasia Journal of Mathematics, Science and Technology Education, 14*(7), 2915–2928. https://doi.org/10.29333/ejmste/90992

Pangket, W. F. (2019). English proficiency: Factors affecting. *International Journal of Science and Management Studies (IJSMS)*, 88. http://ijsmsjournal.org/2019/volume-2%20issue-2/ijsms-v2i2p112.pdf

Rahimi, M., & Miri, S. S. (2014). The impact of mobile dictionary use on language learning. *Procedia – Social and Behavioral Sciences, 98*, 1469–1474. https://doi.org/10.1016/j.sbspro.2014.03.567

Sudjana, N. (2002). *Metode statistika*. Tarsito

Tsukamoto, M., Tsujioka, N., & Yanagida, S. (2009). The effect of foreign language anxiety on oral performance. *Kyoto Sangyo University Essays (Humanities Series)*, *39*, 193-211.

Vesselinov, R., & Grego, J. (2012). *Duolingo effectiveness study*. City University of New York, Queens College.

Vesselinov, R., & Grego, J. (2013). *Duolingo effectiveness study* (Follow-up report). City University of New York, Queens College.