

THE EFFECT OF USING DUOLINGO APPLICATION IN LEARNING VOCABULARY AT SMAN 2 KARANGAN

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Abstrak: Penelitian ini dilakukan untuk mengetahui pengaruh penggunaan Duolingo dalam pengajaran bahasa Inggris untuk meningkatkan kemampuan siswa dalam menguasai kosakata dan untuk mengetahui persepsi siswa tentang penerapan Duolingo dalam mengajar mata pelajaran bahasa Inggris di SMAN 2 Karangan. Penelitian ini dilakukan dengan menggunakan penelitian eksperimental. Penelitian ini menggunakan dua jenis variabel. Variabel pertama adalah penerapan Duolingo sebagai variabel bebas yang akan memberikan pengaruh terhadap variabel terikat. Variabel kedua adalah keterampilan kosakata siswa sebagai variabel dependen yang akan mendapatkan efek dari variabel independen. Subjek penelitian adalah siswa XI IPA 1 dan XI IPA 2 di SMAN 2 Karangan. Hasil penelitian menunjukkan bahwa penggunaan Duolingo dalam mengajar bahasa Inggris memiliki banyak efek positif bagi siswa. Itu membuat siswa memahami materi dan siswa lebih termotivasi dalam belajar. Siswa mendapat kesempatan untuk mendapatkan giliran yang sama dalam mempraktikkan materi, mengurangi kebosanan dalam belajar, difasilitasi dalam mengingat dan mempraktikkan materi dalam kehidupan sehari-hari. Mereka juga belajar dengan antusias dalam kegiatan belajar mengajar. Para siswa menunjukkan sikap positif terhadap penerapan Duolingo di sekolah.

Kata Kunci: Duolingo, Pengajaran Bahasa Inggris, Penguasaan Kosakata

Abstract: This research was conducted to determine the effect of using Duolingo in teaching English to improve students' ability to master vocabulary and to determine students' perceptions of the application of Duolingo in teaching English subjects at SMAN 2 Karangan. This study is conducted by using experimental research. This research was using two types of variables. First variable was application of Duolingo as independent variable which was going to give effect to dependent variable. Second variable was students' vocabulary skill as dependent variable which was going to get the effect from independent variable. The subject of the research are students of XI IPA 1 and XI IPA 2 at SMAN 2 Karangan. The results of the study indicate that the use of Duolingo in teaching English has many positive effects for students. It makes the students understand the material and students are more motivated in learning. Students get the opportunity to get the same turn in practicing material, reduce boredom in learning, facilitated in remembering and practicing material in everyday life. They also learn enthusiastically in teaching and learning activities. The students showed a positive attitude towards the application of Duolingo at school.

Key Words: Duolingo, Teaching English, Vocabulary Mastery

INTRODUCTION

English as the first foreign language in Indonesia need to be taught as one of the subjects for the students from elementary up to university level. English involves four language skills i.e. listening, speaking, reading, and writing. Besides the language skills, there are also three components that must be mastered. They are vocabulary, pronunciation and grammar. In learning English, there are three basic components that need to be taught, and they are pronunciation, grammar, and vocabulary.

(Puspita, 2017) said that vocabulary is very important to be learned by the students who want to master English. Students have to master sufficient vocabulary to make them easier in learning other language skills and components. Language with incorrect language structure is still understandable, while without vocabulary nothing can be expressed both spoken and written (Thornbury, 2002). Laufer (1997) in Indriati (2014) states that “learning vocabulary is one of the most important elements without which neither comprehension nor production of language is possible. In the other word, vocabulary cannot be separated from other language skills.” More importantly, Basuki. Et.al. (2018:123) argue that “vocabulary is very important; it is as the core of language complexities and as a starting point of those who are learning a new language”. Thus, learning vocabulary is a must for those who are learning any new languages.

Even though vocabulary is significant in learning English, yet many students still lack of vocabularies. The teaching and learning vocabulary process in classroom tends to be boring since the lack of media use and monotonous technique. It causes them difficulty to understand texts or when they want to express their words in spoken form.

In globalization era, technology has a major part in every sector of human life, including education thus electronic learning (E-learning) has now been moved from traditional learning (Basuki and Hidayati, 2019). E-learning is learning that uses information and communication technology (ICT) to transform the learning process between instructors and students. Technology in teaching and learning is more various and people suggested that technology can work to help organize and provide the material for students, help students, teachers, and parents interact, anytime and anywhere.

E –learning is communication technology that provides several facilities to increas knowledge, learning and access to online learning / teaching resources (Pande et al, 2016). Bajcsy (2002:81) says that technology in teaching and learning is more variety and he suggested that technology can work to help organize and provide the material for students, help students, teachers, and parents interact, anytime and anywhere. E-learning is earning that uses information and communication technology (ICT) to

transform the learning process between instructors and students. Therefore, it is significant to apply technology as the media to support the teaching and learning materials without the limitation of time.

One of the application of technologies that popular in learning English is Duolingo. (Jaskova, 2014) defines Duolingo is seen as a future in learning languages and in global communication. Duolingo is an application which designed to help student learn language easily and fun, so that they do not feel like learning instead having fun with application. Student work through a series of lessons in one of the six available languages. Each lesson consists of a series of questions, requiring students to type out translations, responds to voice prompts, identify which pictures relate to specific words or sentences, and select answers from a multi choice list. Duolingo is the popular language-learning platform and the most downloaded education app in the world, with more than 300 million users. The company's mission is to make education free, accessible to all and fun. Duolingo is designed to feel like a game and scientifically proven to be effective in learning language. In addition to its core platform, the company created the [Duolingo English Test](#) (DET), an affordable and convenient language certification option that is accepted by over 200 universities. Duolingo expanded beyond language learning with Tinycards, a reinvention of flashcards designed to make studying fun. The company has raised more than \$108 million in venture capital from investors including Google Capital, Kleiner Perkins Caufield Byers, Union Square Ventures, New Enterprise Associates, Drive Capital, Ashton Kutcher and Tim Ferriss (<https://support.duolingo.com/hc/en-us/articles/204829090-What-is-Duolingo-> accessed on February, 23rd 2018)

The researcher wants to see how the influence of Duolingo if teacher implemented it in classroom. It will be aimed to see whether it will help them to improve their vocabulary or not. It is expected to bring positive atmosphere in the classroom.

RESEARCH METHOD

This research uses quantitative research. According Fellows and Liu (2008) quantitative research methods are typically adopted because they are scientific methods and provide immediate result. This research use quantitative because it is more efficient, can test hypothesis and always aimed at clarifying features, count them and build statistical models to explain what is observed during research. This study is conducted by using experimental research. The experimental research design of this research. The experimental research design of this research is Quasi-experimental. In this research, the sample is divided into two groups, namely experimental group and control group. The

experimental group is given treatment by using Duolingo application while the control group is taught without using Duolingo application or only taught by conventional methods. Sample is a portion of a population (Ary, 2010). In this research, researcher take two classes as the sample of the research. One class as experimental class and one class as control class. The researcher conducted the research at the XI grade MIPA in SMAN 2 Karangan consist of two classes. The research was using two types of variables. First variable was application of Duolingo as independent variable which was going to give effect to dependent variable. Second variable was students' vocabulary skill as dependent.

FINDINGS AND DISCUSSION

Finding on Normality Test

Normality test is used to analyze whether the sample population from control and experimental class are normally distributed or not. The researcher used chi square test in testing the normality samples. The analysis of normality test is as follows:

1. Pretest Control class (IPA1)

To establish this normality is by using the data of gain score from Pre-test in control class (IPA1). Calculate data interval by subtracting the highest score with the smallest score, find out the data span (R), and calculate the number of the class (BK) by using formula $(1 + 3.3 \text{ Log } n)$, find out interval class (i) by using formula: class interval = R divide BK or data span divide the number of the class.

By the formula, $db = k - 3 = 5 - 3 = 2$. (χ^2) the result is 5.991 means that $2.271957 \leq 5.991$ or (χ^2) value \leq (χ^2) table. It means that the sample in X_b is normally distributed.

2. Pretest experimental class (IPA2)

To establish this normality is by using the data of gain score from pretest in experimental class (IPA2). Calculate data interval by subtracting the highest score with the smallest score, find out the data span (R), and calculate the number of the class (BK) by using formula $(1 + 3.3 \text{ Log } n)$, find out interval class (i) by using formula: class interval = R divide BK or data span divide the number of the class.

By the formula, $db = k - 3 = 5 - 3 = 2$. (χ^2) the result is 5.991 means that $26.2085 \leq 5.991$ or (χ^2) value \leq (χ^2) table. It means that the sample in X_a is normally distributed.

3. Post-test control class (IPA1)

To establish this normality is by using the data of gain score from Post-test in control class (IPA1). Calculate data interval by subtracting the highest score with the smallest score, find out the data span (R), and calculate the number of the class (BK) by using formula $(1 + 3.3 \log n)$, find out interval class (i) by using formula: class interval = R divide BK or data span divide the number of the class.

By the formula, $db = k - 3 = 5 - 3 = 2$. (χ^2) the result is 5.991 means that - 55.9422 \leq 5.991 or (χ^2) value \leq (χ^2) table. It means that the sample in IPA1 is normally distributed.

4. Post-test experimental class (IPA2)

To establish this normality is by using the data of gain score from Post-test in experimental class (IPA2). Calculate data interval by subtracting the highest score with the smallest score, find out the data span (R), and calculate the number of the class (BK) by using formula $(1 + 3.3 \log n)$, find out interval class (i) by using formula: class interval = R divide BK or data span divide the number of the class.

By the formula, $db = k - 3 = 5 - 3 = 2$. (χ^2) the result is 5.991 means that - 6.363432 \leq 5.991 or (χ^2) value \leq (χ^2) table. It means that the sample in IPA2 is normally distributed.

Finding on Homogeneity Test

The analysis of homogeneity test is by dividing the biggest variant with the smallest variant taken from posttest. The analysis of homogeneity sample as follows:

Table 1.13 Variant Scores

Object	N	Pretest	Posttest
Control class (XI IPA 1)	5	7,9	5,3
Experiment class (XI IPA 2)	5	10,6	7,3

Source: Researcher Analysis (2019)

The homogeneity test is by using F_{count}

$$\begin{aligned}
 &= \frac{\text{biggest variant}}{\text{smallest variant}} = \frac{10,6}{5,3} \\
 &= 2
 \end{aligned}$$

Comparing F_{count} with F_{table} by using formula :

$$Dk \text{ of numerator} = n - 3 = 5 - 3 = 2$$

$$Dk \text{ of denominator} = n - 3 = 5 - 3 = 2$$

Significance level (α) = 0,05, can be seen in the table F

The score of F_{table} is 5,05

By the criterion of test “If $F_{count} < F_{table}$ means, the sample population is homogenous and “If $F_{count} \geq F_{table}$ means the samples are not homogenous. It is seen that $F_{count} < F_{table}$ or $2 < 5,05$ means the sample population are homogenous. So, the analysis can be continued.

Finding on T- Test

The next step was the analysis of the results of the T-test. Based on the comparing score of post-test of control group and experimental group, the researcher calculate t –test. The result of t –test is 15.97.

From the calculation by using t–test formula, the score of t_{value} is **15.97** by significant level (α) 0.05 and $df = N_a + N_b - 2 = 20 + 20 - 2 = 38$. Therefore based on the level of significance (α) 0.05 and degree of freedom (df) 38, it is indicated that t_{table} is 1.671 With the criterion of significantly “If $t_{value} \geq t_{table}$, means H_1 is accepted and H_0 is rejected and “If $t_{value} \leq t_{table}$, means H_1 is rejected and H_0 is accepted. It shows that $t_{value} \geq t_{table}$ or $15.97 > 1.671$ So, H_1 is accepted.

Finding on Validity Test

The experts of this content validity are lecturer from English language education department in STKIP PGRI Trenggalek, Mr. Wawan Prasetyo, M.Pd. and English teacher at SMAN 2 Karanganyar, Mrs. Wijati, M.Pd. Considering his expertise and experience, his assessment and suggestion are considered to be valid

After all the items marked and resulted good, the learning materials then claimed valid although there were some revisions and suggestions from the expert. First, there were some grammatical mistakes on the tasks, so the researcher needed to fix them. Second, the researcher needed to adjust the tasks’ difficulty.

Discussion of Final Result

The researcher state that there is significant effect of the use Duolingo application in vocabulary mastery at XI SMAN 2 KARANGANYAR academic year 2018/2019.

The hypothesis (H_a and H_0) explained in the following statements:

H_a : There is any significant effect of using Duolingo application in vocabulary mastery XI SMAN 2 KARANGANYAR academic year 2018/2019

H_0 : There is no any significant effect of using Duolingo application in vocabulary mastery XI SMAN 2 KARANGANYAR academic year 2018/2019.

To know whether there is or there is no significant effect of the used Duolingo application in vocabulary mastery, the researcher compares the score of post-test of Experimental class and control class. The researcher calculates t –test.

From the post test, the result of calculation in t –test shows 15.97. Then, this result is compared with t- table. The t –table with level of significance (α) 0.05 and degree of freedom (df) 38 shows 1,671. Based on this test, H_0 is rejected and H_a is received, because the t –test value is higher than t –table. It means that there is significant effect of using application duolingo in vocabulary mastery.

From the all test results that have been done, it shows that the application of the Duolingo Application is more effective than using conventional method in teaching vocabulary. By using Duolingo, it brings fun and playful atmosphere into the classroom than just listening to the explanation from the teacher. Playing Duolingo makes the students feel relaxed and happy during the teaching and learning process. If using a conventional method, the learning process becomes monotonous.

It can be proven significantly from post-test results. The mean value of the experimental class that has been taught using the Duolingo application is higher than the control class taught by conventional method. From the statistical results obtained, the mean of the experimental class is 92. Whereas the mean of the control class is 80.5. When it compared, $92 > 80.5$ shows that the experimental class is higher than the control class.

Based on the result, shows that the use of using Duolingo application give effect in vocabulary mastery of XI grade student at SMAN 2 KARANGAN academic year 2018/2019.

CONCLUSION AND SUGGESTION

The main purpose of this research is to investigate about the use Duolingo in teaching English to improve students' vocabulary, and also to find out the influence of Duolingo on students. Based on the result and discussions in chapter IV, the conclusion can be drawn as the following:

1. Applying Duolingo in improving students' vocabulary mastering improves the students' ability in mastering vocabulary. It can be proven by the findings that the mean of the post-test scores was higher than pre-test scores. The mean of the post-test control class was 80.5 while mean of post-test experimental class was 92. The percentage of improvement shown the result if there are 14% of the improvement. Based on the level of significance (α) 0.05 and degree of freedom (df) 38, it is indicated that t_{table} is 1.671 With the criterion of significantly "If $t_{value} \geq t_{table}$, means H_1 is accepted and H_0 is rejected and "If $t_{value} \leq t_{table}$, means H_1 is rejected and H_0 is accepted. It shows that $t_{value} \geq t_{table}$ or $15.97 > 1.671$ So, H_1 is accepted.

2. Duolingo is a language learning media which can be used to increase levels of active learners in teaching learning process. It is one of the effective media in teaching-learning vocabulary for students and having an opportunity to all students to get a fair turn in practicing material.
3. After conducting Pre-Experimental research and analyzing the tests, the research purposes some suggestion that would be the beneficial for students, teachers, and other researchers who are will interested in applying Duolingo vocabulary, help them understand the material, and also help memorize vocabulary well.
4. Duolingo can be accessed anywhere and everywhere, so teachers are not difficult to implement it in indoor learning or outdoor learning. It is a media learning language as well which allows the learners to learn wherever they have internet connection and whenever they feel like it.

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