

The Effect of Duolingo Application on Student's English Vocabulary Mastery at Tenth Grade Student of SMA N 11 Jambi City

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Abstract

The main problem of this research are the Understanding and Mastering English Vocabulary of student while learning, especially at school. The aim of this study is to find the student capabilities and the determination of student in Vocabulary, especially in the absent of class directly at school while Covid-19 Lockdown few years back. The researcher will use field research as a method of inquiry, observation and survey aswell. Research participants are 52 students who's In Tenth Grade. From these, the finding are most of the student had a problem with the Environment or Surrounding of their learning area, while the rest had a problem with the Learning progress. Based on these, the Student had a trouble in learning while at school because their classmate, the task from other subject, and short hour to study English in class or while at home because of their homework from other subject, helping chores around the house as well as they need some breaktime from school since morning. Even more so while on Covid-19 few years back these student had to study at their home and most of the time the teacher explaining the materiel for a bit before throwing a homework or task for them to do. And while studying process it's not effective example like because of the lack of direct communication, noisy surrounding, not enough sufficient device for said learning class, and the list still going on. As the result those years of direct learning and leap of class, carried away until they are now in Tenth Grade. Especialy the student that just started learning or not proficient in English had a trouble at learning English Languague in General

Keywords: Capabilities and Determination, Environment, Surroundings, Learning, Communication

INTRODUCTION

Back then when we want to learn, study or teach about a particular knowledge we're limited to certain boundary, where we need to go somewhere or learn from expert like School, House, in a Room, etc. Often times we would find a lot of people would gather in one place to gain knowledge about anything they interested of let it be about everyday life like how to do basic things for housework all the way up how to manage a big company in convention where there's lot of people would gather. "Learning is "a process that leads to change, which occurs as a result of experience and increases the potential for improved performance and future learning" (Ambrose et al, 2010, p.3).

Early in the 1940s, an American researcher created a flight simulator that ran on an analog computer. This marked

the beginning of the application of computer hardware and software in the fields of education and training. Educational software became closely linked to the hardware that powered it, starting with these attempts to train people directly during the Second World War and continuing until the mid-1970s. With particular implications for educational software, the introduction of the Personal Computer (PC) in 1975 altered the direction and field of software in general. And as time went on, the variety and decreasing price of personal computers made it possible for businesses and charities to be established that specialize in the development of educational software, such as Bruderbund and The Learning Association. These example are the one that later on will create more learning organization to produce Learning Software ranging from Computer to

Mobile. Educational Organization itself is foundation of the individual, provide connection between individual, broaden the horizon of people, educate and develop the society, provide to gain perspective and the foundation of thought (Ceylan & Aktas, 2020) A concept of personalizing the content provided to a student according to their specific level of expertise was included into some of the first learning software examples, which were created in the 1960s by Patrick Suppes at Standford University.

“Learning is not confined within the four walls of the classroom. It can be achieved even outside through digital media” (Agapito, 2018).

With the development of these technology, including in learning researcher is interested in the field for particular learning technology using mobile. According to Roschelle One of those way of learning is to learn a new language of our choosing using software based app that could help us learn language from anywhere, called “Duolingo” where we could download the app and learn in the comfort of anyplace we want. Duolingo itself is world popular learning app that is used widely and company has a mission to develop best education in the world. And researcher is interested in this application.

REVIEW OF RELATED LITERATURE

Concept of Educational Software

With the variety of options accessible, learning may be done through several forms of media, from written to spoken. and was available to the instructor for use whenever needed. The selection of cutting-edge media technology and traditional media are the two distinct categories into which learning media can be divided in terms of technical

advancement. (Seels & Glasgow, 2022:33)

Furthermore, according to Asyhar (2012:44) claims that learning materials can be divided into four categories: multimedia, audio, visual, and audio-visual. Visual media includes both non-projection visual media (objects of reality, narrative models, and graphics) and projection visual media (PowerPoint and AutoCad)

Educational software itself is a term that refer for any computer or mobile device which is made for educational purpose. It’s variety in different range of learning from classroom management to language learning and all the way up to reference software. The main purpose itself is to make few point of education more efficient and effective in the process of learning.

The history of creativity and invention in the classroom dates back to the dawn of existence. Teachers have always exploited the newest innovations in education to help their students learn, whether it was through the incorporation of text or speech. When computer technology eventually swept the world and the US, educators were among the first to come up with creative ways to use it into their work. Students may initially access massive computer mainframes by using false terminals (Cossmann, 1996). There were very few of these computer systems in use in schools at the time, and they were uncommon. Programming software called Logo served as one illustration of that revolutionary shift in educational software development.

Vocabulary

Vocabulary is an aspect of language skills, the existence is very important also to be mastered. According to Hornby (2009: 1707) The terms that

make up a person's vocabulary are (1) all the words that make up the language (together with the rules that combine them); and (2) words that a person knows or uses in their trade, career, etc. While based on the Oxford Advanced Learner's Dictionary (2008: 1662) Vocabulary itself is "Every word a person knows or employs."

Learning Media

According to Sadiman (2006:7) Learning Media is a technique that educators utilize to facilitate effective learning. Anything that may be used to transmit a message from the sender to the recipient can be considered media in order to pique students' attention, ideas, and feelings and involve them in the learning process.

METHODOLOGY

This study will use a quantitative research methodology. A sample population is a particular group of people that quantitative research can gather data about. Quantitative research investigates problems pertaining to the sample population by use of scientific inquiry and data that may be quantified or observed. Quantitative research involves the collection of data so that information can be quantified and subjected to statistical treatment in order to support or refute "alternate knowledge claims" (Creswell, 2003, p. 153)

The source of quantitative research is positivism paradigm that advocates for approaches embedded in statistical breakdown that involves other strategies like inferential statistics, testing of hypothesis, mathematical exposition, experimental and quasi-experimental, design randomization, blinding, structured protocols, and questionnaires with

restricted variety of prearranged answer (Lee, Slevitch, 2011).

Since the technique intends to evaluate interventions but does not involve randomization, the researcher will use quasi-experimental data collection as the method of inquiry. The researcher will use this kind of study in order to accomplish the goal of comprehending each participant in every data collection while also looking more closely at data analysis itself, verifying the theory that is available, and being able to draw conclusions about the actual outcome.

This research focused on two variables, Duolingo application as the dependent variable and student's vocabulary mastery on descriptive text as independent variable. An independent variable is an explanatory variable that is hypothesized to be the cause of variance in another explanatory variable. On the other hand, a dependent variable is an explanatory variable that is thought to be effected by the independent variable. To put it concisely, an independent variable is one that is impacted, while a dependent variable is one that influences the dependent variable. The research strategy will work with the study and help researcher better understand on reaching great understanding about the effect and what stale the student on learning English Vocabulary

FINDINGS AND DISCUSSIONS

The subject of this research are Tenth Grade Students of Highschool number 11 Jambi city. The research will use purposive sampling. The participant was choosen based on their experience with the phenomena of online learning during COVID-19 epidemic. And a student in Tenth Grade at High School number 11 Jambi City. Based on their English Score in last semester. On the

other hand the research involve of two class as experiment & control class, X-5 & X-6 in order. X-5 the experimental class is taught by applying *Duolingo* application and X-6 the control class is taught by Conventional technique without *Duolingo* app.

Descriptive Analysis

The data analysis above indicates that there is a slight variation in students' vocabulary knowledge between the experimental class, which uses the Duolingo app, and the control class, which does not use the app. The criterion average is 75, while the mean pre-test scores for the experiment and control classes are 61.73 and 70.76, respectively. This means in Pre-test, both classes did not reach the minimum criterion in average. Following the application of the Duolingo treatment, the mean for the experiment class is 80.96, but the control class did not achieve 72.69. This shows that the control class did not meet the minimum criteria while the experimental class did. This also means, the Experimental class Vocabulary mastery is also significantly improved compared to the control class

There's 26 students in Experimental class and 26 students in Control class. Therefore the degree of freedom (df) is $(26+26) - 2 = 50$. By the degree of freedom of 56 and the degree of significance of 5% ($\alpha = 0.05$) it is calculated that the critical value was 2.00. The result of the statistic showed that value to observe = 3.484, is higher than $t_{table} = 2.00$. Therefore the null hypothesis (H_0) is rejected and alternative hypothesis (H_a) accepted.

Normality Test

Result of normality test for Pre-test in Experimental class showing a range of .012 and .044 while the control class

.200 and .289, with this it means the probability value (p) of both class was higher than ($>$) the degree of significance 5% ($\alpha = 0.05$). With that, it is concluded that both Experimental and Control class was normally distributed. Result of normality test for Post-test in Experimental class showing a range of .105 and .060 while the control class .013 and .214, with this it means the probability value (p) of both class was higher than ($>$) the degree of significance 5% ($\alpha = 0.05$). With that, it is concluded that both Experimental and Control class was normally distributed

T-Test

An independent t-test was used to compare the means or averages of the two independent samples (the experiment and the control class) in order to determine whether there was statistical support for a substantially different mean. To determine the difference in student accomplishment scores in learning, researchers utilize the T-test. Fluency in words both with and without the Duolingo app. With that, researcher use IBM statistic SPSS 20 to make the calculation of the test. The result is presented on the next page:

Based on the calculation from the test above, the degree of freedom (df) is 50, and critical value calculated using the degree of significance of 5% is 2.00 (t_{table}) and the to observe is 3.484. This means the post-test score of Experimental class is higher than the control class. The result of comparison is $3.607 > 2.00 = t_{observe} > t_{table}$.

As of shown in the hypothesis, the $df = 50$ and degree of significance 5% the value of degree of significance is 2.00 (gain based of $df = 50$ and / $\alpha = 0.05$). Comparing the value to observe (3.484) is higher than t_{table} (2.00), and the alternative hypothesis (H_a) is accepted

and null hypothesis (H_0) is rejected. Furthermore, it's concluded that there were significant difference between result of using Duolingo in teaching Vocabulary mastery at Tenth Grade High School Students Eleventh of Jambi City Academic Year 2021/2022

CONCLUSIONS

The goal of this study is to gather empirical evidence about the impact of the Duolingo app on students' vocabulary mastery in the tenth grade at Jambi City's High School 11 throughout the academic year 2021–2022. It also serves as evidence for the idea in question and associated research.

After the investigation is completed, the results are gathered, and the statistics show the value of $t_{observed} = 3.484$ and the value t_{table} is 2.00. After comparing the two by value of degree of significance the researcher find that $t_{observed}$ is higher than t_{table} ($t_{observed} > t_{table}$, $3.484 > 2.00$). Considering that $t_{observed}$ exceeds t_{table} , the alternative hypothesis (H_a) was accepted and null hypothesis (H_0) is rejected. This means there is positive effect in using Duolingo in Experimental class compared to the Control class using conventional method that didn't use it.

Student seems to enjoy using the application implemented on the Experiment Class. Since it's a new approach of learning for them to and it feels much more fun and engaging in learning for them to start the Vocabulary Mastery in Class. And based on student from Control Class seems to be curious about the application itself afterwards

And finally, the researcher conclude that the use of Duolingo app is effective through students Vocabulary Mastery, specifically for tenth grade

student of High School 11 Jambi City academic year 2021/2022.

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