The Effectiveness of Web-Based Learning Media "Games to Learn English" on Young Learners' Vocabulary Mastery

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Abstract

Vocabulary is one of the essential parts of language that cannot be separated from learning English. It is challenging to master the four language skills without mastering a vocabulary because it is essential in language learning. The problem of this research is whether web-based learning media Games to Learn English to teach vocabulary to sixth-grade students at SD 1 Ternadi in the 2023/2024 academic year make a significant difference in vocabulary learning. This is an experimental study with one group pre-test and post-test. This study explores the difference in young learners' vocabulary before and after being taught using web-based learning media Games to Learn English. Only one class in this study as respondents received the treatment as part of this design. The sig (2-tailed) value obtained is 0.00, which is less than 0.05, therefore there is a significant difference. As a result, the alternative hypothesis (Ha) is accepted and the null hypothesis (H0) is rejected, there is a difference between the two values. It is proved that Games to Learn English is effective to teach vocabulary for sixth grade students at SD 1 Ternadi.

Keywords: Effectiveness; vocabulary; web-based; young learner.

1.   INTRODUCTION

English is the most widely used foreign language on the internet, in the professional area, and in technological developments (Kurniati & Romadlon, 2021). In today's globalized world, the importance of English cannot be refuted or neglected because English is the most popular universal language (Nishanthi, 2018). Therefore, to prepare young learners to have good English skills, it is necessary to allow them to learn English at a young age.

Vocabulary is one of the essential parts of language that cannot be separated from learning English. Syarifuddin (2017) argued that early attention should be given to vocabulary development when learning a foreign language because it is crucial to

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language use. This aligns with Workie (2022), who stated that vocabulary plays a vital role in any attempt to learn a new language. Furthermore, Scott Thornbury (2002) noted that vocabulary is one of the most crucial components in learning English; nothing can be conveyed without vocabulary.

Teaching vocabulary can be started in elementary school when students are still developing optimally. In Indonesia, English is a subject taught from elementary school to university. Teaching vocabulary has not been carried out optimally in Indonesia. It can be seen that the average student has difficulty in speaking. This is because their vocabulary is still limited. Students with limited vocabulary will face several problems, such as speaking, listening, reading, writing, etc. Students who don't know how to expand their vocabulary will gradually lose interest in learning.

A concept related to teaching techniques that combines vocabulary mastery and online games is included in web-based learning. Web-based learning is a teaching-learning process that uses the web as the main instrument (McKimm et al., 2003, p. 870). There are numerous web-based media for learning English, such as Quizlet, Padlet, Kahoot, and others, but Games to Learn English is a specific web that presents several games. Games to Learn English offers various games to be played interactively to train vocabulary.

Furthermore, Games to Learn English include various activities, such as picture matching, arranging sentences, guessing games, spelling games, word searches, and many other exciting games. The games target a relatively low level of English, with practically all content ranging from elementary to high school. Although it is categorized as a web-based online game since we have to open the website www.gamestolearnenglish.com to access it, the site's appearance is relatively straightforward to grasp because each game contains a brief explanation of the game's regulations. Furthermore, it may be more engaging for learners because a score will be published at the game's finish. Scores from all participants are displayed in the section leaderboard, and this will motivate learners to strive to be a winner by correctly answering many more questions.

Based on previous research done by Figna et al. (2020), they stated that web-based learning media is a valid medium that can be used as a learning medium. The usage of web-based learning media has an impact on the learning process by engaging passive students become more engaged. Using web-based learning media to transfer material from teachers to students is faster because it can make abstract material more natural and provide assignments that help students better understand what they are learning in and out of the classroom. Learning media is interactive, and it can assist in enhancing pupil participation.

2.   LITERATURE REVIEW

2.1. The Concept of Vocabulary

Sari (2022) mentioned that when learning a language, people need to pay attention to vocabulary. Vocabulary contributes to the formation of a concept. Speakers will struggle to articulate or convey thoughts, opinions, or feelings to others in both spoken and written form if they do not master vocabulary. Alqahtani (2015) stated that vocabulary knowledge is frequently seen as a vital tool for second-language learners because a restricted vocabulary in a second language affects successful communication.

Vocabulary mastery is a set of words in a language which consists of information about their purpose, form, and usage in a communication context. It is the fundamental knowledge pupils must grasp before learning English (Lelawati et al.,

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2018). Vocabulary education can help to build the four language abilities. According to Sedita (2005, cited in Listiani, 2020), individuals notice and understand words first and then utilize them in the context of suitable circumstances and in an intuitive manner. All four language skills are combined with vocabulary. Vocabulary knowledge can thus help to build four language abilities.

2.2. Teaching English to Young Learners

English is one of the foreign languages taught in Indonesia. English is taught in our country from elementary school to university level. Elementary school students are young learners. According to McKay (2007, as cited in Ana, 2018), young learners are pupils who acquire English as a foreign language or second language for the first six or seven years of the formal education system, which is often at the elementary school level. English is taught at elementary schools in Indonesia. According to McKay, young learners are primary school students in Indonesia whose ages vary from 7 to 13 years old.

Young learners have their methods for accepting new information and will get it all through delight. Although children learn a language faster than adults, they do not know by standard language teaching methods. Teachers must discover appropriate ways and good media to teach vocabulary; playing games is one of the best methods. Children can learn a language better through entertaining activities since learning becomes natural because these activities do not make them aware that they are learning a language (Ibrahim, 2016).

Cameron (2001, as cited in Bakhsh, 2016) indicated that there are four things' teachers need to remember when teaching English to students besides knowledge and skills. Teachers must be aware of the way their students think and learn. Also, they must be able to find out what children are interested in and utilize it for language teaching. In addition, teachers should be equipped to teach their young students' literacy in English and deliver the whole lesson orally. Lastly, teachers should identify problems and difficulties while teaching the language.

2.3. Web-Based Learning Media

Web-based learning is a learning method that employs the internet as a tool in online classes, such as email, videoconferencing, and live classroom video streaming (McKimm et al., 2003). Because it involves online course content, web-based learning is also known as online learning or e-learning. Web, a shorter form of World-Wide Web (WWW), is described as a system of Internet interconnecting information by employing electronic texts (Jackson, 2009, as cited in Alpatikah, 2022). The web is a digital technology system that provides information via the internet. It is made up of numerous sites that provide information on a variety of themes. There will also be pages on each site that give detailed information. It is known as a webpage. Anyone can access both a website and a webpage via the internet by clicking a link. According to David, web-based learning uses the internet, including an educational instrument (Alpatikah, 2022). Web-based learning media can be applied in conventional classes. Although web-based learning was designed for online class programs that use high-technology media with teachers and students using technology, it can also be used in conventional class programs that use medium technology media with teachers using technology but students not using technology.

3.   METHODS

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This study used a quantitative research design. In this study, the researcher employed an experimental research design. According to Creswell (2012), the experimental design is the best quantitative design that can be used to determine cause and effect. It means this research is to determine the effectiveness of gamestolearnenglish.com as a website media learning towards students' vocabulary mastery. The researcher used a pre-experimental design. With a pre-experimental design, the researcher studied one group and provided interventions throughout the experiment. This design lacks a control group compared to the experimental group. The researcher employed a one-group pre-test post-test design in this case. This design includes a pre-test measure followed by a treatment and a post-test for a single group.

$$\boxed{O1 \qquad X \qquad O2}$$
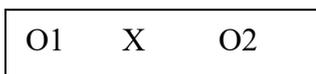
Notes:
O1   = Pretest before applying treatment
X   = Treatment (gamestolearnenglish.com)
O2   = Post-test after applying a treatment

In this research, a test with 25 multiple choice questions was used as research instrument by the researcher. The test is divided into two parts: pretest and post-test. A pretest was conducted before starting the treatment. Then, the post-test was given to find out whether there was a difference in students' vocabulary mastery before and after receiving treatment through Web-based learning media Games to Learn English.

In this study, the researcher used the internal consistency reliability test. According to Fraenkel et al., (2012), the Kuder-Richardson approach, sometimes known as KR, is a reliability testing method incorporating an internal consistency test. KR can be used to test the dependability of instruments that have a single correct answer.

The reliability coefficients for various achievement tests are generally 0.90 or higher when using the Kuder-Richardson formula. Many class tests have reliability values of 0.70 or higher. For research purposes, a useful generalization is that the dependability should be at least 0.70 and ideally higher.

The steps that use in the quantitative analysis are as follow:
1. Scoring the student's correct answer pre-test and post-test

    Students score $= \dfrac{Students\ correct\ answer}{Total\ number\ of\ item} \times 100$

2. Descriptive Analysis
    a. Calculating the mean pre-test and post-test score
        Mean (X) :

        $$X = \frac{\Sigma x}{N}$$

    b. Calculating the standard deviation
        Standard Deviation (SD):

        $$SD = \sqrt{\frac{\Sigma x^2}{N}}$$

3. Calculating t-test
        This study calculated statistics using the t-test formula in SPSS (statistic product and statistic solution). To identify the significant difference between

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pre-test and post-test of experimental class, the hypothesis calculation technique uses the t-test formula through procedure SPSS Windows program from steps as follows: analyze - compare means- paired sample t-test. A paired sample t-test is used to compare the means of two measurements collected from the same group, item, or related units. According to Santoso (2018), The following are tips for decision-making in the paired sample t-test based on the significance value (sig) of the SPSS output results:

a. If the significance value (2-tailed) < 0.05 then H0 is rejected and Ha is accepted
b. If the significance value (2 tailed) > 0.05 then H0 is accepted and Ha is rejected

4. Making a decision and interpreting the result of the test
    a. Reject H0 and accept Ha, if there is a distinction between two values
    b. Accept H0 and reject Ha, if there is no distinction between two values.

4. RESULTS

The results of this study are related to the classification of students' pre-test and post-test, the researcher gave a test that was given two times. The pre-test was given before treatment to determine the level of student understanding. In contrast, the post-test was given after treatment to determine any differences before and after using web-based Games to Learn English. After giving the treatment and getting the results of the post-test, it can answer the question of this study, which aims to find significant differences before and after being taught using web-based games to learn English as a media for sixth grade at SD 1 Ternadi. The results of the pre-test and post-test of the students are shown in the table below:

Table. 4.1 The Results of Pre-test and Post-test

No	Name	Score Pre-test	Score Post-test
1	FZ	60	80
2	ASRP	64	84
3	MAP	72	88
4	BAU	68	88
5	AZZ	72	96
6	BRW	64	92
7	BK	80	100
8	BCW	76	96
9	CP	76	92
10	DEIS	68	92
11	EUJ	84	100
12	GNR	80	92
13	IPL	76	96
14	INF	80	100
15	MAS	76	92
16	MRA	76	96
17	MZF	80	92
18	MKM	80	96
19	NAR	76	88
20	QAU	80	92

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| 21 | GA | 76 | 96 |

From the table above the total pre-test score is 1564. The highest pre-test total score was 84 and the lowest pre-test total score was 60. The post-test total score was 1948. For the test, the highest score was 100 and the minimum score was 80. Using SPSS, the researcher calculated the mean and standard deviation as below.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test	21	60.00	84.00	74.4762	6.38451
Post-test	21	80.00	100.00	92.7619	5.15660
Valid N (listwise)	21				

Based on the table of SPSS calculation results above, the post-test average is 92.76 much higher than the pre-test average of 74.47. This indicates that there is a difference between the students' scores before and after the treatment.

After finding the mean and standard deviation of the pre-test and post-test, the researcher computed the treatment's significance using a paired sample t-test with SPSS.

Paired Samples Test

		Paired Differences							Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Pair 1	Pretest - Posttest	-18.28571	4.30282	.93895	-20.24434	-16.32709	-19.475	20	.000

From the data calculation in table 4.5, referring to the t-table at a significant level α 0.05. The criteria used for hypothesis results are as follows: If t0 > t-table, then the null hypothesis (H0) is rejected, and the alternative hypothesis (Ha) is accepted. Then, the t-table with a significance level of α 0.05 with degrees of freedom (df) n-1 = 21-1 = 20 is 2.085. The t-test calculation results show that the t-test is 19.475 and the t-table is 2.085. The t-test value is higher than the t-table (19.475 > 2.085). the sig value (2-tailed) in table 4.5 also shows that the sig value (0.000) is lower than the α value (0.05).

In this study, researchers administered a pre-test, treatment, and post-test to sixth-grade students at SD 1 Ternadi. After administering the pre-test, the researcher provided treatment in three meetings.

In the first treatment, the researcher explained the material about health and hospital and the terms related to health and hospital. Afterwards, the researcher used an LCD projector and laptop to open web-based learning media Games to Learn English. The researcher open health and hospital content and made a list of the terms related to health and hospital. In this meeting, the researcher saw that the learners were enthusiastic about playing web-based learning media games to learn English.

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In the second treatment, the researcher conducted a discussion with the learners to guess letters to spell out the hidden words and make sentences based on images related to health and hospital terms. In this treatment, the researcher found that the learners still had difficulty in pronunciation and in writing. After being asked, some pupils argued that the words are difficult and not familiar with using English or lack of practice.

In the third treatment, the researcher asked the students to come forward individually to do the Games to Learn English web task. The students were very enthusiastic. In this treatment, researcher saw that the students began to be able to guess the images shown by the web and arrange the jumbled words into correct sentences.

The researcher then administered the post-test to the students after completing all the treatments. The post-test scores demonstrated a significant difference from the pre-test scores. After three treatments, the pupils had improved their vocabulary mastery. Unlike the previous maximum pre-test score of 84, the highest post-test score obtained was 100. The lowest post-test score was 80, whereas the lowest pre-test score was 60. This shows that pupils' word-memorizing skills increased significantly after the research-based treatment.

After obtaining the data, the researcher analyzed and measured it to get the final results. The results showed that the average post-test score was 92.76 and the average of pre-test score was 74.48. in this case, the hypothesis testing showed that: If t-count > t-table, then the null hypothesis (H0) is rejected and the alternative hypothesis (Ha) is accepted. Then, the t-table with a significance level of α 0.05 with degrees of freedom (df) n-1 = 21-1 = 20 is 2.085. The results of the t-test calculation show that the t-test is 19.475 and the t-table is 2.085. The t-test value is higher than the t-table (19.475 > 2.085). The sig value (2-tailed) in table 4.5 also shows that the sig value (0.000) is lower than the α value (0.05).

It could be concluded that web-based learning media Games to Learn English can be used to improve students' vocabulary mastery in English learning because this media gives fun, enjoyable, and interesting learning concept that can motivate young learners to learn English in an exciting and effective way. Web-based learning media Games to Learn English also easy for students to find and use to learn English and can help students practice basic English, and it was in line with theory from Alqahtani (2015). The use of media is a big influence in this study, media is very useful in learning English especially for young learners. Teachers and students will be greatly helped by using media to achieve learning objectives. The results of this present study support a previous study conducted by Chaidir (2021). He mentions that web-based English learning could help pupils increase their English vocabulary.

5. CONCLUSION

Based on the findings in the discussion of the previous chapter, it can be concluded that the use of web-based learning media Games to Learn English affects students' vocabulary mastery. The vocabulary mastery of students in class VI at SD 1 Ternadi in the 2023/2024 academic year before being taught using web-based learning media Games to Learn English was still relatively weak. The highest score of the pre-test was 84 and the lowest score was 60. The after being taught using web-based learning media Games to Learn English has increased. The highest score of the post-test was 100 and the lowest score was 80. Based on the description of the result above, referring to the t-table at a significant level α 0.05 with degrees of freedom (df) n-1 = 21-1 = 20 is 2.085. The results of the t-test calculation show that the t-test is 19.475 and the t-table is 2.085. The t-test value is higher than t-table

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(19.475 > 2.085). The sig value (2-tailed) in table 4.5 also shows that the sig value (0.000) is lower than the α value (0.05). It can be concluded that there is a significant difference between the pre-test and post-test before and after being taught using web-based learning media Games to Learn English in class 6 students of SD 1 Ternadi.

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