The Effectiveness of using Quizlet as digital learning to improve vocabulary mastery of junior high school students

Serliah Nur[1]✉, Nurhalisa Eka Putri[1]

[1] *English Education Department, Universitas Islam Negeri Alauddin Makassar*
Jl. H.M Yasin Limpo Romangpolong, Sombaopu, Gowa, Sulawesi Selatan 92113, Indonesia
✉serliah.nur@uin-alauddin.ac.id

Abstract: The aim of this study is to determine the effectiveness of using Quizlet as a digital learning medium to improve the vocabulary mastery of junior high school students. This study applied a quasi-experimental design with pre-test and post-test. The population of this study consisted of the 8th-grade students of MTsN 1 Kota Makassar. Purposive sampling was utilized by the researchers to choose 80 students as a sample and divided them into two classes, experimental and controlled classes. This study used a vocabulary test as the instrument. The vocabulary test was used to determine whether the 'students' vocabulary mastery had improved following the treatment or not. The result of the study shows that there was improvement of 'students' vocabulary after using Quizlet as digital learning media. This is evidenced by the t-test significant value 0.000<0.05, which means that H_1 is accepted and H_0 is rejected. Therefore, using Quizlet as digital learning media is effective to improve 'students' vocabulary mastery. Quizlet is one of application that can be used as digital learning media with many features that can support the learning process in individuals and groups. Quizlet can also be used in online and offline situations.

Keywords: digital learning media; Quizlet; vocabulary.

A. Introduction

English is one of the most widely spoken international languages in international forums such as the United Nations. Therefore, the government stipulates in the regulation in Permendikbud Number 68 of 2013 by Kementerian Pendidikan, Kebudayaan, Riset, (2013) that English is one of the subjects that Indonesian students must learn in Junior High School. By introducing English as early as possible, it is hoped that students will be able to compete globally. To make students able to compete globally, it is necessary to have the ability to understand English to understand the meaning conveyed by people.

According to English Proficiency Index (English First, 2022), English proficiency in Indonesia ranks 81 out of 111 countries and 15 out of 24 Asian countries. These data show that English proficiency in Indonesia is low. One of the factors that cause Indonesia to be ranked low is that it does not use English in daily life, causing a lack of knowledge of English vocabulary.

Based on an interview with students in preliminary research, some students still do not understand English clearly. Students do not understand English because it is a difficult subject for them, and they do not know the vocabulary. Because of this, they do not understand English. Williams & Burdens (1997), as cited in (Okkan & Aydın, 2020) who, said the cause students do not understand English is most students try to memorize vocabulary in a technique that obstructs their vocabulary mastery, such as making a list of vocabulary or taking small note instead of listening or reading the vocabulary. Hatch & Brown (1995) defined vocabulary as the basis for building language and plays a crucial role in communication. Therefore, vocabulary is crucial for the ability of language since it determines how well the students speak, listen, read, and write. To express our ideas and know what other people are saying, students need to have a vocabulary mastery, and also it is critical to know vocabulary as one of the components of language. To help the student know vocabulary and understand English well, the teacher needs a way to achieve it by utilizing educational technology.

Educational technology refers to using technology tools in the teaching and learning process that aim to convey information and knowledge to students, such as using digital learning media. Doris Holzberger et al., (2013), as cited in (Lin et al., 2017) defined digital learning as the delivery of learning materials with digital media forms such as texts or images via the Internet to improve students' learning. Buckingham (2003) said that learning media aims to spread a broad range of skills, not just in connection to the text but also in another symbolic system of pictures and sounds. Using interesting learning tools as the learning media will certainly encourage 'students' interest in learning. Avisteva & Halimi (2021) explained that one of the ways that attract students to learn new vocabulary is by utilizing technology as a media of learning in the classroom so that the learning activity is more interesting to students. Thus, the teacher must find and use the right educational technology to create interest in learning vocabulary, such as using

applications or websites. One of application or website that can be used to improve 'students' vocabulary mastery is Quizlet.

Quizlet is a mobile and web-based application that helps students learn the material through games and learning tools (Quizlet, 2015). Quizlet is a digital flashcard and learning platform that can be used on a computer or mobile device (Wright, 2016). Quizlet is an online web application that allows students to learn vocabulary with various interesting learning features to help students in learning vocabulary. Avisteva & Halimi (2021) and Çinar & Arı (2019) said that '' vocabulary increased after using Quizlet as a learning medium. Prayogi & Wulandari (2021) said that Quizlet is a very practical and easy-to-use application for vocabulary learning. Anjaniputra & Salsabila (2018) also said that students enjoy learning vocabulary using Quizlet and helping their vocabulary learning and also suggests the teacher use Quizlet as a learning media to create interesting and innovative learning.

MTsN 1 Kota Makassar was chosen as the location of this research because it is one of the schools that use digital learning media, such as PowerPoint, Preezi, Hyperlink, Kahoot, and Quizziz. Based on an interview with the Vice Principal of Academic Affairs and Curriculum, he agreed with the concept of learning through application by using a smartphone to improve students' vocabulary mastery.

Several previous studies have conducted research that supports and forms the basis for conducting this research, where the studies focus on improving the students' vocabulary mastery by using Quizlet. The first was from Montaner-Villalba (2019) which the study focused on vocabulary mastery in learning a foreign language. The result of this study proves that Quizlet can improve 'students' EFL vocabulary. The second from Avisteva & Halimi (2021), the study focused on the improvement of students vocabulary by using Quizlet as a learning media. This study's result indicated that students' vocabulary increased after using Quizlet as a learning media, and the application is easy to use. The last from Prayogi & Wulandari (2021) which the study focused on analyzing Quizlet in helping students learn vocabulary and how students understand to use the application. They concluded that Quizlet is a very practical and easy-to-use application for vocabulary learning, and the researchers suggest using Quizlet to help students learn vocabulary.

Based on the background, the researchers conducted this study to determine the significant effect of using Quizlet as a digital learning media to improve vocabulary mastery. Setiawan et al., (2021) said that students who use Quizlet get a lot of words, and their vocabulary mastery is higher than students who do not use it. MTsN 1 Kota Makassar is one of schools where digital learning media is used, was chosen by the researcher to support this study.

B. Method

This study was located at MTsN 1 Kota Makassar. MTsN 1 Kota Makassar is one of the digital-based schools in Makassar, South Sulawesi. The school is located at Jl. A. P. Pettarani No. 1A, Mannuruki, Tamalate District, Makassar, South Sulawesi. The study was done from June 23rd – October 21st, 2022.

This study used a quasi-experimental design with a quantitative approach. The population of this study is VIII grade students of MTsN 1 Kota Makassar in the academic year 2022/2023, which consists of 440 students and divided into five kinds of classes, namely Tahfidz classes, Bilingual classes, Sains classes, Skill classes, and regular classes. Based on preliminary research by conducting the interview, the class of VIII Tahfidz 1 and Tahfidz 2 were chosen as the sample by the researchers because the Vice Principal of Academics and Affairs wants to find out whether students who memorize 'Qur'an can improve their vocabulary or not. The technique that used to take the sample is purposive sampling. Sugiyono (2017) defined purposive sampling is a sampling technique that considers specific aspects while picking a sample.

Dependent and independent variables are variables in this study. A dependent variable is a variable that is influenced by independent variable and an independent variable is a variable that causes to a change in other variables (Johnson & Christensen, 2014). Quizlet in this research is the independent variable, meanwhile, the, vocabulary mastery is the dependent variable.

The researchers used the vocabulary test as the instrument to collect data. Three types of tests were given to students, such as multiple-choice, which consists of 12 numbers, which consists of 9 numbers, and gap-fill, which consists of 4 numbers.

Therefore the total numbers of tests were 25 items. To analyze the data, the researchers used SPSS 26 edition.

This study took eight meetings to complete, including pre-test and post-test. The treatments of study by using Quizlet could be drawn in the Table 1.

Table 1. The treatment by using Quizlet

Meetings	The Topic of Material	Features of Quizlet
1	Pre-test	
2	Expression of Abilities	Flashcard, Match, Classic Live
3	Expression of Willingness	Flashcard, Match, Classic Live
4	Expression of Obligation	Flashcard, Learn, Classic Live
5	Expression of Prohibition	Flashcard, Match, Checkpoint
6	Expression of Giving Advice	Flashcard, Match, Test, Checkpoint
7	Expression of Inviting Others	Flashcard, Match, Test, Classic Live
8	Post-test	

In the first meeting, the students pre-tested by filling the vocabulary test. The vocabulary test asks students to match, choose the correct answer, and complete the sentence with the words provided. In the second to seventh meetings, students are asked to learn vocabulary using features of Quizlet, and each meeting has a different topic to learn.

Six features support students learning via Quizlet, such as flashcards, learn, match, test, classic live, and checkpoint. The Table 2 shows the features of Quizlet (Setiawan & Wiedarti, 2020).

Table 2. Features of Quizlet

Features	Description	Website	Mobile App
Flashcard	Digital flashcards to demonstrate the terms ,which the students can flip by touching the screen or clicks by using mouse to show pictures or definitions that explain the term.	Available	Available
Learn	The words and their meanings can be learned in multiple-choice and writing question forms. The questions are sorted from easy to difficult levels.	Available	Available
Match	Students are asked to match terms to their definitions or pictures as quickly as possible and then the app shows their scores and ranks among other learners.	Available	Available
Test	The test has four types of questions: multiple-choice, written, True or False, and matching. The questions are based on the study set.	Available	Available
Classic Live	Four or more students are required to play this in which they are connected to the Quizlet website and enter the code. Then, the students in each group should answer multiple-choice questions based on the study sets through their computers. They must collaborate to find out the correct answers because the answers	Available	Available

	are randomly scattered among the devices. The first team to complete the game is declared the winner.		
Checkpoint Live	In this feature, students work individually or in a group so every student can participate in the fun with musically-driven, timed question, and animations.	Available	Available

The data analysis of this study is quantitative. First, the data is tested through a normality test. The normality test is a way to ensure that the data has been distributed normally (Raharjo, 2014). And then, the data is tested through homogeneity test. The homogeneity test ensures whether the data variance between two or more data groups has the same or different variance. This test is a prerequisite for testing the hypothesis. The last data that has been processed will be analyzed through an independent t-test. The researchers used an independent t-test to determine whether therewas a significant effect on the post-test in the experimental and controlled classes. The t-test can be done with the following formula if the significancy value/Sig. (2-tailed) < 0.05, H_0 is rejected and H_1 accepted and if significancy value/Sig (2-tailed) > 0.05, H_0 is accepted and H_1 rejected. The hypothesis of this study was formulated as follows:

- Alternative Hypothesis (H_1): Using Quizlet as digital learning media is effective to improve the vocabulary mastery of students
- Null Hypothesis (H_0): Using Quizlet as digital learning media is not effective to improve the vocabulary mastery of students

C. Result and Discussion

1. The research findings of Quizlet as digital learning to improve vocabulary mastery

The research findings of Quizlet are concerned with the presentation of the mean score of vocabulary test, normality test, homogeneity test, and independent t-test.

a. The Mean Score of Vocabulary Test

The pre-test and post-test mean scores of students are shown in Table 3. The pre-test mean score of the experimental class is 84.00, while the post-test mean score is 91.00. It can be concluded that there is a significant increase in the average score of students on students' vocabulary after receiving treatment from researchers for six

meetings. Meanwhile, the pre-test mean score of the control class is 79.60, and 85.80 is the post-test mean score, which shows a little increase in students' vocabulary.

Table 3. The mean score of vocabulary test

	N	Minimum	Maximum	Mean
Pre-Test of Experimental Class	40	68	96	84.00
Post-Test of Experimental Class	40	76	100	91.00
Pre-Test of Controlled Class	40	64	96	79.60
Post-Test of Controlled Class	40	76	96	85.80

Then, to find out whether there is a significant effect on the post-test in the experimental and controlled classes, the researchers tested the data using an independent t-test. Before conducting a t-test, the researchers must be done the normality test. The normality test is a way to ensure that the ' 'study's data have been distributed normally.

b. Normality Test

Table 4. The result of normality test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		80
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	7.20167695
Most Extreme Differences	Absolute	.091
	Positive	.061
	Negative	-.091
Test Statistic		.091
Asymp. Sig. (2-tailed)		.003[c]
Exact Sig. (2-tailed)		.136
Point Probability		.000

The result of the normality test is presented in Table 4. The significant value of the pre-test and post-test in the experimental and controlled classes is 0.136. Hence, the data is distributed normally because the significance value exceeds 0.05.

c. Homogeneity test

The homogeneity test is used to ensure whether the data variance between two or more data groups has the same or different variance. This test is a prerequisite for testing the hypothesis. If the significance value is greater than 0.05, it can be said that the variance of two or more data groups is the same.

Table 5. Test of Homogenity

	Levene statistic	df1	df2	sig.
Hasil Belajar Siswa				
Based on Mean	1.028	1	78	.314
Based on Median	.453	1	78	.503
Based on Median and with adjusted df	.453	1	74.133	.503
Based on trimmed mean	.1066	1	78	.305

Based on Table 5 above, the homogeneity ' 'test's significant value is 0.314. Because of the significant value/Sig. is 0.314 > 0.05, it deduced that the data variance of experimental and controlled classes is the same.

d. Independent T-test

After the data was tested using homogeneity and normality tests and the result was distributed normally and homogeneity, the researchers used a T-test to determine whether there is a significant effect on the post-test in the experimental and controlled classes. There is a significant effect of using Quizlet as digital learning to improve 'students' vocabulary mastery if the significant value/Sig. (2-tailed) < 0.05. Meanwhile there is significant effect of using Quizlet as digital learning to improve 'students' vocabulary mastery if the significant value/Sig. (2-tailed) > 0.05.

Table 6. The result of the independent t-test

	Sig (2-tailed)
Equal variances assumed	0.000

Based on the result of the independent t-test above (Table 6), the value of Sig (2-tailed) is 0.000, where less than 0.05. Overall, it may be said H_0 is rejected, and H_1 is accepted. Therefore, it can be concluded that there is a significant effect of using Quizlet as digital learning to improve 'students' vocabulary mastery.

Based on the study results described above, it can be seen in Table 3 that the mean score of the experimental class and the control class has increased. The result the mean score in the post-test of the experimental class is 91.00, and the result of the control class is 85.80. It concluded that the post-test mean score of the experimental class was higher than that of the control class.

2. Discussion

Quizlet is a mobile and web-based application that helps students to learn the material through games and learning tools. Montaner-Villalba (2019) said that Quizlet as the ideal tool for helping students improve their vocabulary.

Several things have been concluded clearly from this research. First, both classes are Tahfidz classes, which focuses on memorizing the Qur'an. They spend more time memorizing the Qur'an than learning English. Second, students who were in the experimental class showed a desire to learn English when it was stated that they would use an application, namely Quizlet in the learning process. When the students open the intended learning set, they are excited to open the flashcard feature and curious about what vocabulary they have learned. Sometimes, they open the sound option to determine how it is pronounced. After opening the flashcard feature, students are asked to open other features to find out how well they have mastered the material learned on the flashcard feature and the achievement of learning objectives. According to the learning objectives, students are expected to understand and apply the expressions of ability, willingness, obligation, prohibition, giving advice, and inviting others correctly. Third, before using Quizlet in the experimental class, most of the students were at the good level and the least of them were at very good. After using Quizlet, the post-test results in the experimental class improved. Many students are at the very good level and the least of them were at the good level.

The result of this study shows that using Quizlet as a digital learning to improve students' vocabulary mastery is effective. This is evidenced by the results of the t-test in Table 6, which show the significant value/Sig. (2-tailed) is 0.000<0.05. Therefore, it can be concluded that the Alternative Hypothesis (H_1) is accepted and the Null Hypothesis (H_0) is rejected.

Therefore, using Quizlet as digital learning is effective and can improve students' vocabulary mastery. The result of this study is in line with the study of (Avisteva & Halimi, 2021; Montaner-Villalba, 2019; Setiawan et al., 2021), who said that using Quizlet can improve students' vocabulary and their score is higher than students who 'didn't use Quizlet as learning media.

Learning vocabulary using Quizlet begins with an introduction about Quizlet, and students are asked to join the class by clicking the link that has been shared. Then, students

are asked to open the set of vocabulary to be learned and given 10 minutes to study the set using the Flashcard feature.

The flashcard feature can also show the material following the picture. Harmer (2007) said that using cards in learn vocabulary is good for learners; which some learners are particularly stimulated and respond most powerfully to images. Sometimes, they open the sound option in a flashcard to determine how it is pronounced. After that, students were asked to open two or more Quizlet features (Table 1) to determine their understanding of the vocabulary set they were learning and achievement of learning objectives. According to the learning objectives, students must understand and apply the expressions of ability, willingness, obligation, prohibition, giving advice, and inviting others correctly. Then, the researchers ask all students to open Live features (checkpoint or classic live features) and answer the questions individually or in groups. Then, we all discussed together the material being studied. The classic live feature can help students strengthen the material they learned in class in a fun and competitive quiz game, meanwhile, in the checkpoint feature, the teacher can easily find out what students understand, and what they need to work on through this quick formative assessment in multiple choice questions quickly and easily (Quizlet, 2015).

Stauffer (2019) described several strengths and weaknesses of Quizlet. First, Quizlet can help teachers distinguish reviews for learners. Second, The teacher can incorporate collaboration and teamwork into the class. Third, Quizlet helps the learners prepare for their test. Meanwhile, the weaknesses of Quizlet such as Quizlet's advertisements have the potential to divert students' attention away from their study material, the information that students encounter on Quizlet maybe incorrect, and students may use Quizlet to cheat.

Several factors that make this study successful. First, the students bring their smartphones or tablets to school for the purpose of learning in digital-based classes. Second, the internet access in this school is good because the location of the school is in the middle of the city so that it can reach the internet network. Third, Quizlet is easy to use because students can use it without installing the app first. As additional information, Quizlet can also be used in offline and online class situations.

Besides that, the researcher also randomly asked some students about their opinions about Quizlet. They said they felt happy and enthusiastic when using Quizlet in the

learning process. This is in line with Apriliani & Suryaman (2021) study which said that learning English vocabulary using Quizlet is very interesting and makes students enthusiastic about learning English. They also do not feel bored because there are interesting features that make them curious in learning vocabulary and scoring the highest score among their friends.

The use of Quizlet as a learning medium is helpful for students to learn English, especially vocabulary. Various features on Quizlet make them more enthusiastic and motivated to learn vocabulary so the learning process runs well and smoothly.

D. Conclusion

Based on the result and discussion above, the researchers concluded that using Quizlet as a digital learning medium to improve 'students' vocabulary mastery is effective. It is evidenced by the result of this study, which shows that students' vocabulary improves after using Quizlet as a digital learning media. It can be seen by the result of the T-test significant value $0.000 < 0.05$, which means there is a significant effect of using Quizlet as digital learning to improve 'students' vocabulary mastery.

Quizlet is one of the application that can be used as a digital learning media with many features that can support the learning process in individuals and groups. Using Quizlet as a digital learning media can help students improve collaboration and teamwork skills in class. Quizlet can also be used in offline and online class situations.

References

Anjaniputra, A. G., & Salsabila, V. A. (2018). The Merits of Quizlet for Vocabulary Learning at Tertiary Level. *Indonesian EFL Journal*, *4*(2), 1-11. https://doi.org/10.25134/ieflj.v4i2.1370

Apriliani, D. N., & Suryaman. (2021). 'Students' Perception in Learning English Vocabulary Through Quizlet. *Journal of English Teaching, 7*(3), 343-353. https://doi.org/10.33541/jet.v7i3.3064

Avisteva, R. T., & Halimi, S. S. (2021). The Use of Quizlet as a Vocabulary Acquisition Learning Media for Eleventh Grade Students. *Proceedings of the International University Symposium on Humanities and Arts 2020 (INUSHARTS 2020),* 254-260.

https://doi.org/10.2991/assehr.k.211110.038

Buckingham, D. (2003). *Media Education : Literacy, Learning, and Contemporary Culture*. Polity Press.

Çinar, İ., & Arı, A. (2019). The Effects of Quizlet on Secondary School 'Students' Vocabulary Learning and Attitudes Towards English. *Asian Journal Instruction, 7*(2), 60–73. https://dergipark.org.tr/en/pub/aji/issue/51548/647002

English First EPI. (2022). *Daftar peringkat terbesar berdasarkan kemampuan bahasa Inggris di negara dan wilayah terbesar dunia*. https://www.ef.co.id/epi/regions/asia/indonesia/

Harmer, J. (2007). *How to Teach English*. Pearson Education Limited.

Hatch, E., & Brown, C. (1995). *Vocabulary, Semantics, and Language Education*. Cambridge University Press.

Johnson, R. B., & Christensen, L. (2014). *Educational Research*. SAGE.

Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi. (2013). *Salinan Peraturan Menteri Pendidikan Dan Kebudayaan Republik Indonesia Nomor 68 Tahun 2013*.

Lin, M. H., Chen, H. C., & Liu, K. S. (2017). A study of the Effects of Digital Learning on Learning Motivation and Learning Outcome. *Eurasia Journal of Mathematics, Science and Technology Education*, *13*(7), 3553–3564. https://doi.org/10.12973/eurasia.2017.00744a

Montaner-Villalba, S. (2019). The Use of Quizlet to Enhance Vocabulary in The English Language Classroom. In *CALL and complexity – short papers from EUROCALL 2019* (pp. 304–309). Research-publishing.net. https://doi.org/10.14705/rpnet.2019.38.1027

Okkan, A., & Aydın, S. (2020). The Effects of the Use of Quizlet on Vocabulary Learning Motivation. *Language and Technology*, *2*(1), 16–25. https://dergipark.org.tr/tr/download/article-file/970416

Prayogi, A. W., & Wulandari, M. (2021). Implementing a Mobile Application Quizlet to Help Senior High School Students Learn Vocabulary. *Journal of English Language Teaching*, *6*(1), 87-99. https://doi.org/10.15294/elt.v10i1.42775

Quizlet. (2015). *What is Quizlet*. https://quizlet.com

Raharjo, S. (February 19, 2014). Cara Melakukan Uji Normalitas Kolmogorov-Smirnov dengan SPSS. *SPSS Indonesia.* http://www.spssindonesia.com/2014/01/uji-normalitas-kolmogorov-smirnov-spss.html

Setiawan, M. R., Pancoro, N., & Putro, S. (2021). Quizlet Application Effect on Senior High School Students Vocabulary Acquisition. *English Language and Literature*

International Conference (ELLiC) Proceedings, 4, 84-98. https://jurnal.unimus.ac.id/index.php/ELLIC/article/view/7392

Setiawan, M. R., & Wiedarti, P. (2020). The effectiveness of quizlet application towards 'students' motivation in learning vocabulary. *Studies in English Language and Education*, *7*(1), 83–95. https://doi.org/10.24815/siele.v7i1.15359

Stauffer, B. (July 23, 2019). Pros & Cons of Using Quizlet in Your Classroom. *iCEV.* https://www.aeseducation.com/blog/quizlet-pros-cons

Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.

Wright, B. A. (2016). Transforming Vocabulary Learning With Quizlet. *Japan Association for Language Teaching Postconfrence Publication, 1*, 436-440. https://jalt-publications.org/node/4/articles/6075-transforming-vocabulary-learning-quizlet