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Improving the Vocabulary Ability of Junior High School Students Through the Lingodeer Application

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Abstract: This research aims to study the effectiveness of the Lingodeer application in improving the ability of English vocabulary at one of the junior high schools in Sidoarjo, through a quantitative approach. Data collection is done by carrying out a pre-test before application use and a post-test after application use. The results of the analysis showed a significant difference between pre-test and post-test scores. The average pre-test score is below the school's minimum grade standard, which is 60, while the average post-test score increases to 86.10, exceeding the school minimum grade standard. The sig. 0,000 < 0,005, which indicates that the H_0 is rejected and the Ha is accepted. These findings indicate that the Lingodeer application is significantly effective in improving the vocabulary of junior high school students, and this discovery suggests that the potential of technology in education can support a more interactive and effective language learning process.

Keywords: Vocabulary, Lingodeer Application, English Language Skills

Introduction

In the process of learning a language, vocabulary plays a very important role. Vocabulary provides the basis for many elements of the ability to communicate in language, especially listening, reading, writing, and speaking. Vocabulary not only serves as a basis for building sentences but also determines the extent of a person's understanding and communication skills in the target language (Richards & Renandya, n.d.). Vocabulary plays a crucial role in language learning. By mastering vocabulary, a person can understand and use language more efficiently in various aspects of communication, including speaking, listening, reading, and writing (Wardah, 2022).

There are many previous studies that show the role of students' writing skills in language learning. One of them, in research by Wirastuti, said that vocabulary skills have a big effect on students' writing skills. They found that good vocabulary mastery is very important to producing quality writing. This research emphasizes that to improve writing skills, it is important to pay attention to the development of students' vocabulary (Wirastuti, Widiastuti, & Muliana, 2022). On the other hand, if students do not master vocabulary, they will often face challenges in expressing ideas clearly, which can interfere with the writing process and degrade the quality of the text they create (Nurmalita & Hafrison, 2022).

To learn and teach any language, effective language teaching practices are essential. Therefore, English teachers can use various teaching techniques to deliver materials and

personalize their classes (Losi & Nasution, 2022). One of the challenges students face is reading and writing English due to vocabulary limitations and problems with spelling and grammar. They also face difficulties in understanding the meaning of the text as a whole (Losi, Wahyuni, Rosida, & Zahra, 2023). In addition, in the study conducted by Lazarurizqi, the challenge that students often encounter is the difficulty of memorizing English vocabulary because of the many boring vocabulary and learning methods (Lazarurizqi & Suryaman, 2022). Sometimes, the lack of interesting learning methods can also make the learning process uninteresting and less effective. To overcome this, educators must choose a more attractive and effective teaching strategy to improve the vocabulary (Abin & Andas, 2022).

In the current era of digitalization, technology has a significant influence on education, especially in the classroom. Thus, the use of game-based media—such as moving objects, images, animations, and sounds—can make the learning process more attractive to students and teachers (Muñoz & Pujadas, 2021). This medium not only makes learning more interactive and interesting but also helps students be more involved in the subject matter (Alzahrani & Roberts, 2020). Along with technological advances, teaching approaches can focus more on the individual needs of students and their learning styles, creating a more personalized and effective learning experience. Technology can positively affect education, especially in English learning (Tiara, Rahman, & Handrianto, 2021).

Technology tools are considered crucial in the learning process because they provide interactive materials, exercises, and live feedback. The integration of technology in foreign language teaching enables more flexible and personalized learning, increases student motivation, and provides access to additional resources that support better understanding and academic outcomes (Kalsoom, Jabeen, Alshraah, Khasawneh, & Al-Awawdeh, 2024). One example of using a mobile application as a student learning aid was found in a study conducted by Habibie. The study shows that mobile applications support language learning by providing flexible access to materials, allowing students to learn independently, and increasing motivation through interactive features (Habibie, 2020). By utilizing technology, teachers can increase creativity in teaching and help students acquire vocabulary (Munibi, 2023).

Based on research conducted by Sitepu, Lingodeer can help junior high school 7th graders achieve vocabulary. In this case, the Lingodeer application proved to be more effective in improving the achievement of student vocabulary compared to conventional methods (Sitepu & Putri, 2024). This is in line with research from Yudha, which shows that learning vocabulary through games is more effective than traditional methods such as copying and remembering (Yudha & Mandasari, 2021). Thus, games in learning not only make the classroom atmosphere more pleasant but also play an important role in building better relationships between teachers and students (Küçük, 2023).

Vocabulary mastery is very important to improve the quality of student learning. Vocabulary is a part that must be mastered in learning, because the more vocabulary students understand, the easier they are to learn English, especially in writing skills. Therefore, utilizing the Lingodeer application to increase vocabulary, a recent study is given to show how technology might enhance students' language mastery.

Based on the explanation above, the researchers use Lingodeer application as media to support students in enriching their English vocabulary. Lingodeer is an interactive foreign language learning application that allows students to interact contextually and structuredly. Based on pre-observation, researchers have found that grade 7 students at one of the Islamic junior high schools in Sidoarjo have difficulty achieving vocabulary in English lessons, especially in writing skills. This is based on the experience of teachers who teach English in the class, where students often lose focus while studying so that they are not optimal in absorbing the material.

Then, when viewed from the student's point of view, there are other reasons that make them have such difficulties. Students often lose concentration because they feel bored with the way of learning English in the classroom, which only relies on books and blackboards as a medium. This makes it difficult for students to be actively involved in the learning process. They have difficulty understanding new vocabulary and concepts due to a lack of variety in the way the material is delivered. The limitations of using such learning media can also reduce students' motivation to learn. So far, teachers have provided the best strategies for learning English, but they need a variety of effective media to help students master their vocabulary, especially in writing skills related to certain descriptive texts about the place. So, the researchers use the Lingodeer application as a learning medium in the classroom, expected to overcome the boredom experienced by students as well as become a medium to train students in adding vocabulary and improving how to write their vocabulary.

Methodology

The researchers use a pre-experimental design to answer the research question. The qantitative methods is a structured way to develop scientific knowledge by studying cause-and-effect relationships, measuring variables, and testing hypotheses using experiments and surveys. This method collects statistical data from a group of people who are sampled to represent the population being studied. This research was conducted at one of the Islamic junior high schools in Sidoarjo, class 7. The researchers involved one pre-test, two treatment sessions, and one post-test. Data pretest and post-test measurement was carried out by researchers using 25 questions about vocabulary that included descriptive text material about places. The sampling of research, which included as many as 25 questions, was declared valid after a validity test was carried out through a validator in the English field.

The researchers use a quantitative approach (pre-experimental design) with the following steps: First, the researchers done a pre-test to measure the initial ability of the students. Second, the students follow the experimental learning process using the Lingodeer application. Once the learning process is complete, the researchers provide posttests to the students to measure the success of this research experiment. Then for collecting the data, the researchers did some steps as follow:

1. Pre-test

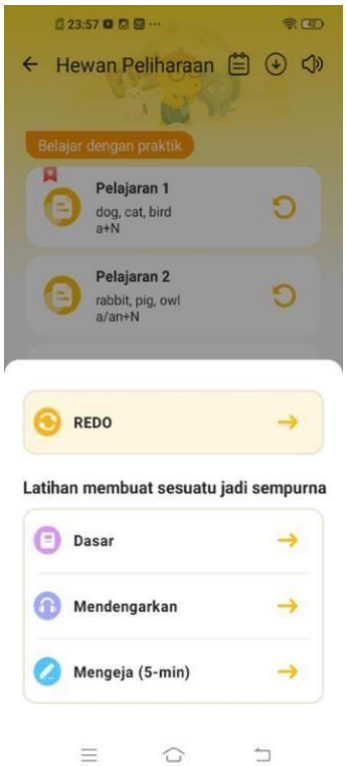
   The researchers conducted a pre-test to measure the students' initial proficiency in English vocabulary related to descriptive texts about the place. One class was selected as the sample, resulting in a total sample size of 20 students. Each student was given 25

questions to answer within a 30-minute time frame. The test's question format and quantity both gauge the student's proficiency in writing skills at the right level of difficulty and incorporate the language they have studied. The question consists of 10 questions to fill in blank sentences and 15 questions to describe the picture briefly. This is done to measure or know the student's final ability to master vocabulary in English before receiving the material. In the pre-test instrument provided, the researchers adopted the questions number 1–10 from the 7th grade worksheet of the school, while the questions number 11–25, the researchers adapted images from the Lingodeer application.

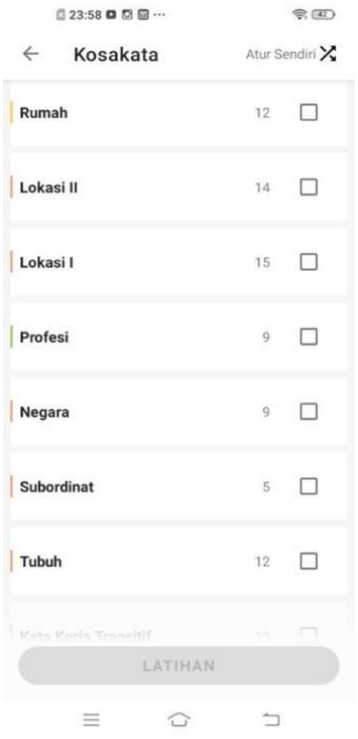
2. Treatment Activities

In the first treatment, the researchers acted as teachers to introduce the Lingodeer application as a medium for learning English. The learning process begins with comprehensive preparation from the researchers to ensure students are ready to follow the learning. The researchers opened the session with greetings and prayers, as well as checking the class for the presence of students before starting ice-breaking to create a fun atmosphere. Learning material about descriptive texts (about places) is connected with the personal experience of learners, which is encouraged by lighter questions to stimulate discussion. The researchers displayed images of public places through Power Points such as libraries (vocabulary) to orient students, which are then observed and discussed with related questions. The researchers then conducted a quiz using the Lingodeer application, which allows students to participate in interactive testing after being explained the definition of lingodeer.

Picture 1. The Overview



Picture 2. The Menu



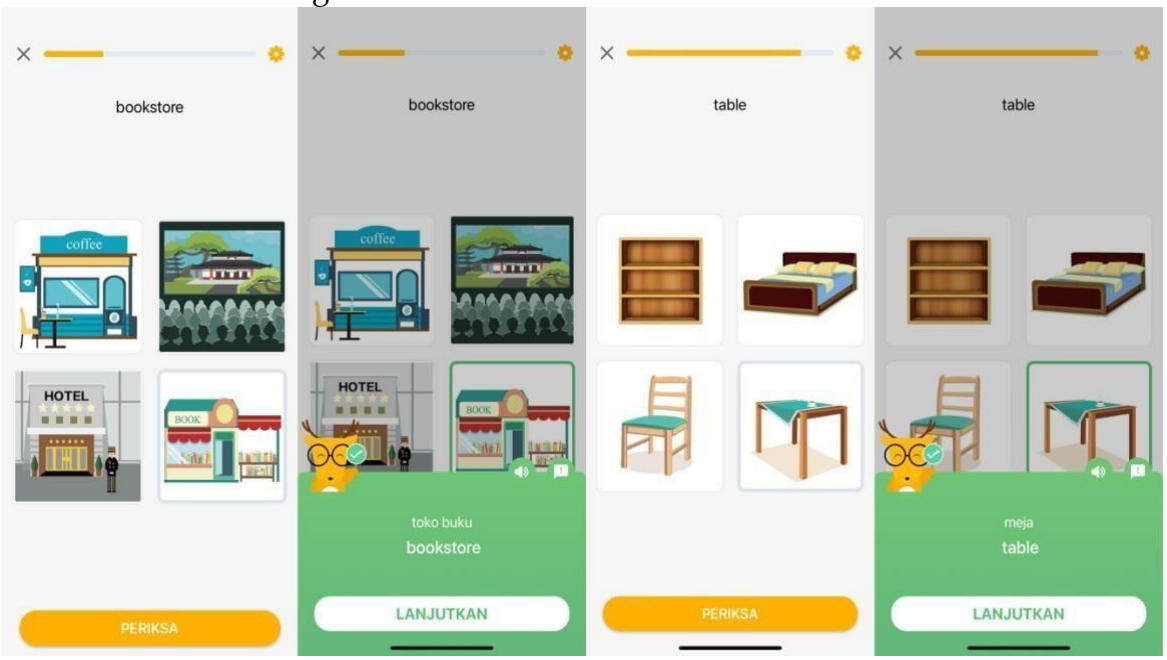
Picture 3. The Vocabulary quiz

In the picture number 1 is an overview of the Lingodeer application. There is a large selection of topics that suit the user's level of ability. Then in picture number 2 is the basic menu for practice. While in picture number 3, there is a menu to choose a quiz as an exercise as you wish. There are three skills, namely reading, listening, and writing.

However, the researchers used picture number 3 as a focus so the researchers could freely manage what vocabulary would come out while playing by choosing some vocabulary names. The researchers were able to limit the vocabulary that needed to be displayed in the quiz. After that, students are asked to identify vocabulary related to descriptive text about the place on the worksheet that was discussed in the next meeting. At the end of the lesson, the researchers and students make a list of the vocabulary learned, reflect on the day's activities, and plan the follow-up that will be discussed at the next meeting.

Next, in the second treatment, the researchers started the learning with the preparation of students with greetings and prayers, as well as attendance checks. Learning begins with ice-breaking to create a conducive atmosphere. Furthermore, learning materials with the same theme and descriptive text are associated with the experiences of students. Lighting questions are given to encourage discussion, including about objects and activities in the text as well as vocabulary from previous meetings. The researchers also explained the benefits of studying descriptive texts.

After that, the learning process continued with the correction of the learning results from the last week's meeting. Where students write their answers on the whiteboard and then make corrections together.



Picture 4. The overview of the question in Lingodeer Application

After that, the researchers did a mini-quiz. The researchers divided the students into four groups, with each group consisting of five people. After the group division, students gather together with their group members. Next, the researchers play a mini quiz using the Lingodeer application after explaining the applicable rules of the game, namely;

1. The students are asked to compete in answering the quiz to get points.
2. The researchers appointed one representative from the selected group to advance to the front of the class to answer the quiz presented
3. If the answer is correct, the student can return to the seat and get 1 point; if the answer is incorrect, the student should mention the name of the picture and describe it briefly by writing it on the board
4. The students from the same group can help answer. See figure 4, which is an overview of the question in the Lingodeer application quiz.
5. After the mini quiz was completed, the researchers evaluated and reflected on the learning process, where students were given sticky notes to show appreciation to the group with the most points.

At the end of the session, the researchers and students reflect on the day's learning activities, provide follow-up for the next activities, and deliver the material to be studied at the next meeting.

3. Post-Test

The researchers conducted a post-test to measure the success of this research experiment. As was done in the pretest, one class was selected as a sample, resulting in a total sample size of 20 students. Each student is given 25 questions to answer in a period of 30 minutes. The format and quantity of these test questions are used to measure students' proficiency in mastering English vocabulary and their writing skills. According to the theme studied (descriptive text about the place), the questions consist of 10 questions to fill in blank sentences and 15 questions to describe images. Then, the results of the post-test score measurement are compared with the results of the initial measurement to determine if there is an effect on the student's score. In the post-test instrument provided, the researchers adapted questions from the school's 7th grade worksheet, specifically for question numbers 1 to 10. While the question numbers 11 to 25, the researchers adapted questions from the Lingodeer application.

Then to analyzing data from research questions, the researchers used this research instrument to determine whether the students's vocabulary understanding of the ability to write descriptive texts about places can be significantly improved with the Lingodeer application. Therefore, this study used the SPSS 26 program, which includes presenting descriptive data, a normality test using Kolmogorov-Smirnov, and a paired sample T test.

Results and Discussion

Descriptive Data

Table 1. Pre-test dan post-test scores

	N	Minimum score	Maximum Score	Sum	Mean	Std. Deviation
Pre-test Score	20	60,00	92,00	1396,00	69,8000	**9,40101**
Post-test Score	20	76,00	92,00	1662,00	83,1000	**5,44736**
Valid N (Total students. 20						

Based on Table 1, in the pre-test scores of 20 students (N) showed that the minimum score was 60 and the maximum score was 92. Furthermore, the overall student grade was 1396 (sum) with an average of 69.80 (mean). Looking at the average score obtained by students in pre-test scores, it is 69.80, which indicates that this score is below the minimum standard set by the school of 75. So from the data above, it can be concluded that the ability of students to achieve the applicable curriculum goals has still not reached the expected target, which means that vocabulary knowledge in students in this pre-test is still weak. However, after receiving treatment, the post-test results of grade 7 students showed improvement. The average post-test score is 83.10 (mean), with a minimum score of 76.00 and a maximum score of 92.00. This shows that the score has reached the minimum standard set by the school. The data shows that students' ability to achieve applicable curriculum goals has met the expected target, which means that students' vocabulary knowledge has improved.

Normality Test

The researchers used the Kolmogorov-Smirnov normality test to evaluate whether the data obtained, both before and after the test, could be considered normally distributed. If the significance value of the test is greater than 0.05, the researchers can conclude that the data comes from a normally distributed population (H_0). Conversely, if the significance value is less than 0.05, the researchers will assume that the data does not follow the normal distribution (H_1).

Table 2. One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		**20**
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	8,68520560
Most Extreme Differences	Absolute	,137
	Positive	,137

N		**20**
	Negative	-,089
Test Statistics		,137
Asymp. Sig. (2-tailed) [c]		**,200** [d]
Monte Carlo Sig. (2-tailed)[e]	Sig.	,408
	99% Confidence Interval Lower Bound	,396
	Upper Bound	,421

Based on the results of the Kolmogorov-Smirnov test conducted, the researchers found that the value of Asymp. Sig. (2-tailed) was 0,200, which is much greater than the previously set level of significance, which is 0.05. These results show that there is not enough evidence to reject the null hypothesis (H_0), which states that the existing data is included in the normal distribution. Thus, the researchers can conclude that the data obtained, both pre-test and posttest, can be considered normally distributed based on predetermined criteria.

Paired Sample T-Test Results

Next, the researchers analyzed the data using SPSS program with a paired sample t-test. This is done to determine how significantly students' vocabulary in writting skills are improved before and after using the Lingodeer application. According to Singgih Santoso, the guidelines for decision-making in the paired sample t-test based on the significance value (Sig.) of the SPSS output results are as follows; If the Sig value. (2-tailed) < 0.05, then H_0 is rejected and Ha is accepted. Conversely, if the sig. (2-tailed) > 0.05, then H_0 is accepted and Ha is rejected. This approach allows researchers to specifically assess the effectiveness of Lingodeer in improving vocabulary in writing ability by comparing differences in pre-test and post-test score outcomes .

Table 3. Paired Samples Test

	Mean	Std. Deviantion	Std. Error Mean	95% Confidence Interval of the Defference		t	df	Sig. (2-tailed)
				Lower	Upper			
PRETEST POSTTES 13,30000	**-**	**8,87990**	**1,98561**	**-17,4559**	**-9,14408**	**-6,698**	**19**	**,000**

The statistical test results in Table 3 show a mean value of -13,30000. This value shows the difference between the average pre-test and post-test learning outcomes. Meanwhile, there is a difference of -17.4559 (lower) to -9.14408 (upper). Next, the significance value (Sig. 2-tailed) in the table is 0.000. The sig. (2-tailed) 0,000 < 0,05. This shows that there is a significant difference between pre-test and post-test average scores in vocabulary writing

ability after using the application of Lingodeer learning media. Thus, the null hypothesis (H_0) stating the absence of significant differences was rejected, while the alternative hypothesis (Ha) stating the influence of the application of the Lingodeer learning media was accepted. These findings confirm that the use of Lingodeer as learning media is effective in improving the vocabulary writing skills of grade 7 students at one of the Islamic junior high schools in Sidoarjo.

Discussion

Based on the results of the research conducted, the researchers found that 7th graders at an Islamic junior high school in Sidoarjo faced difficulties in achieving English vocabulary, especially in writing skills. Students often lose focus and feel bored because of the monotonous teaching method, which is to only use books and whiteboards. This hinders their understanding of new vocabulary and concepts and reduces their learning motivation. To overcome this problem, teachers need effective learning media. Therefore, the researchers use the Lingodeer application as a solution to reduce student boredom and help them expand their vocabulary as well as improve their writing skills. The use of the Lingodeer app to improve English vocabulary shows how technology can help students learn languages. This study underlines the benefits of the application in supporting student vocabulary mastery.

Based on the data obtained by the researchers, the data shows a significant difference in the score of vocabulary understanding in descriptive text material about the place in students before and after using the Lingodeer application during learning. On pre-test scores, students have scores ranging from 60 to 92, with an average of 69.80. This grade average is still below the minimum standard set by the school, which is 75. However, after the implementation of the Lingodeer application, post-test results showed a positive improvement. The average post-test score increased to 83.10, with a minimum score of 76 and a maximum of 92. This improvement shows that the average student score has now reached and even exceeded the minimum standards set by the school. It is also supported by data results from paired t-sample tests to evaluate the effectiveness of Lingodeer's application in improving student vocabulary and writing skills. The results of the analysis showed that the sig. 2-tailed value is 0,000. The value of 0,000 < 0,05 indicates a significant difference between the pre-test and post-test scores. Thus, it can be concluded that the use of Lingodeer is effective in improving the vocabulary writing skills of 7th grade students in one of the Islamic junior high schools in Sidoarjo.

This research is relevant to the study conducted by Jannah, which shows that the application of Lingodeer has an effective and efficient influence on helping students learn independently. This application makes it easier for students to learn vocabulary without regional restrictions. Technology integration through learning applications such as Lingodeer can improve teaching effectiveness and facilitate student learning in a more efficient way in the digital age.This is evidenced by the findings, where the average vocabulary score of students increased from 63.70 in the pretest to 70.75 in the post-test. The t-test result showed a t-test value of 3,847, which is greater than the t-table value of 2,101.

Meanwhile, according to study by Alifiarti, the use of the Lingodeer application as a learning medium helps students master English vocabulary more effectively than traditional methods. After being given treatment, the results of this study showed a significant improvement in the vocabulary mastery of students after using the application. The average pre-test score was 68.16, while the post-test average score was 82.32. The results of the paired sample test showed a Sig. (2-tailed) score of 0.000, which is less than 0.05. meaning that there is a significant influence from the application of Lingodeer learning media on improving the ability to write Hiragana letters in students.

However, the study also identified some flaws in the Lingodeer app, such as a lack of direct interaction between students and teachers, too much focus on digital learning without replacing handwriting practice, and less in-depth content. In addition, this application requires a device and an internet connection that are not always available to all students. While Lingodeer is useful, there are parts that need to be improved, including interaction, content, and accessibility. Researchers also suggest improving interaction with face-to-face sessions, adding manual handwriting practice, enriching app content, and improving accessibility over Wi-Fi, devices, and offline versions. This suggestion aims to make the Lingodeer application more effective in learning.

With these suggestions, the researchers managed to complete this study with satisfactory results. This research is relevant to previous studies showing that the use of Lingodeer is effective in improving students' vocabulary writing ability, with a significant improvement in post-test scores after the intervention. These findings are also consistent with previous research highlighting the benefits of technology in language learning.

Conclusion

The conclusion of this study is that the Lingodeer application is proven to be effective in improving the English vocabulary and writing skills of grade 7 students at one of the Islamic junior high schools in Sidoarjo. Research shows a significant improvement in vocabulary comprehension scores after the use of the Lingodeer application, with posttest average scores reaching the minimum standards set by the school. These findings are consistent with previous studies assessing the effectiveness of applications in supporting vocabulary learning for writing skills and the role of technologies that help students access learning materials in a flexible and interactive manner.

References

A. A. S. Miftahul Jannah, T. Ifianti, and C. H. R. Indah, "Efektifitas Penggunaan Aplikasi Lingodeer pada Peningkatan Kemampuan Kosakata Siswa Kelas Delapan SMP Islam Malang," dalam Proc. Seminar Nasional Sastra, Lingua, Dan Pembelajarannya (Salinga), vol. 2, no. 1, pp. 386-395, Nov. 2022.

A. D. Tiara, M. A. Rahman, and C. Handrianto, “The Students` Perception About Use of Duolingo Application for Improving English Vocabulary,” International Journal of Education , Information Technology and Others (IJEIT), vol. 4, no. 4, pp. 690–701, 2021, doi: 10.5281/zenodo.5775915.

A. Habibie, "Duolingo as an Educational Language Tool to Enhance EFL Students' Motivation in Learning English," British, Jurnal Bahasa dan Sastra Inggris, vol. 9, no. 1, pp. 13-26, Jun. 2020.

A. Z. Munibi, "Pengaruh Penguasaan Kosakata and Tata Bahasa terhadap Kemampuan Membaca Bahasa Inggris," Edukatif: J. Ilmu Pendidikan, vol. 5, no. 1, pp. 691-698, Feb. 2023. [7] I. G. A. P Wirastuti, I. A.

C. Muñoz and G. Pujadas, "Audio-visual input for learning L2 vocabulary and grammatical constructions," Second Language Researc., 2021, doi: 10.1177/02676583211015797.

F. M. P. Sitepu and R. F. Putri, "The Effect of Using Lingodeer Application on Students' Vocabulary of the Seventh Grade at MTS Darul Ilmi Batang Kuis," Regist. J. UNIMED, vol. 13, no. 1, pp. 16-24, 2024.

G. J. Lazarurizqi and A. M. Suryaman, "Students' Perspective and Experience Toward Learning Vocabulary Using Mobile Game," PROJECT (Professional Journal of English Education), vol. 5, no. 2, pp. 45-56, 2022.

H. T. Yudha and B. Mandasari, "The Analysis of Game Usage for Senior High School Students to Improve Their Vocabulary Mastery," J. Engl. Lang. Teach. Learn. (JELTL), vol. 2, no. 2, pp. 74-79, Dec. 2021.

I. G. A. P. Wirastuti, I. A. M. S. Widiastuti, and I. M. Muliana, "Korelasi antara Penguasaan Kosa Kata dan Kemampuan Menulis," Suluh Pendidikan (Jurnal Ilmu-Ilmu Pendidikan), vol. 20, no. 1, pp. 72-77, 2022.

J. C. Richards and W. A. Renandya, "Methodology in Language Teaching An Anthology of Current Practice Chapter 1 ~ English Language Teaching in the ' Post - Method ' Era : Toward Better Diagnosis, Treatment , and Assessment," pp. 1–29.

N. Alifiarti and R. A. Karnawati, "Penerapan Media Pembelajaran Lingodeer untuk Meningkatkan Kemampuan Menulis Huruf Hiragana di SMA Adi Luhur Jakarta," Kiryoku: J. Studi Kejepangan, vol. 7, no. 1, pp. 1-10, 2023.

P. N. P. Indarto, "Hasil Belajar Keterampilan Membaca Bahasa Jerman dengan Metode Scramble Peserta Didik SMA Negeri 1 Mojosari Kelas X Semester 2," Laterne, vol. 9, no. 1, pp. 1-10, 2020.

R. Abin and N. H. Andas, "The Effect of Using Autonomous Learning Model by Duolingo-Assisted to Improve Students' Vocabulary Mastery at VIII Class of SMPN 3 Buton Tengah,"EduLine: Journal of Education and Learning Innovation, vol. 2, no. 3, pp. 1-12, 2022, doi: 10.35877/454RI.eduline1258.

R. V. Losi and M. M. Nasution, "Students' Attitudes Toward Communicative Language Teaching (CLT) in English Speaking Intensive Program,," IJEAL (International Journal of English and Applied Linguistics, vol. 2, no. 1, pp. 1-10, 2022.

R. V. Losi, S. Wahyuni, S. Rosida, and P. Zahra, "Comic Strip: A Media to Teach English," JOLADU : Journal Of Language Education, vol. 1, no. 3, pp. 127-133, 2023.

S. Alzahrani and L. Roberts, " The effect of visuospatial designing elements of zoomable user interfaces on second language vocabulary acquisition," Jornall Pre of System, p. 102396, 2020, doi: 10.1016/j.system.2020.102396.

S. Nurmalita and M. Hafrison, "Kontribusi Penguasaan Kosakata terhadap Keterampilan Menulis Teks Eksposisi Siswa Kelas X SMA Negeri 2 Koto XI Tarusan," Jurnal Pendidikan Bahasa Indonesia, vol. 11, no. 3, pp. 123-135, 2022.

T. Kalsoom, S. Jabeen, S. M. Alshraah, M. A. S. Khasawneh, and N. Al-Awawdeh, "Using Technological-based Models as Digital Tutors for Enhancing Reading and Writing Proficiency of Foreign Language Undergraduates," Kurdish Stud., vol. 12, no. 1, pp. 1716-1733, Jan. 2024, doi: 10.58262/ks.v12i1.118.

T. Küçük, "The Importance of Mime Games in Vocabulary Teaching to EFL Students at a Private University in Iraq," Int. J. Soc. Sci. Educ. Stud., vol. 10, no. 2, pp. 109-120, 2023, doi: 10.23918/ijsses.v10i2p109.

Wardah,"Meningkatkan Hasil Belajar Penguasaan Kosakata Bahasa Inggris Melalui Penggunaan Model Make a Match." Language: Jurnal Inovasi Pendidikan Bahasa dan Sastra, Vol. 2, No. 2, pp. 138-146, 2022.