

Using Digital Games to Improve Students' Vocabulary Mastery: A Classroom Action Research at SDIT Permata Insani Islamic School Kota Jambi

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ARTICLE INFO	ABSTRACT
<p>Keywords: <i>Digital Game, Improvement, Vocabulary, Vocabulary Mastery, Word wall Game.</i></p> <p>DOI: https://doi.org/10.22437/langue.v3i1.30211</p> <p>Received: December 12, 2023</p> <p>Reviewed: January 28, 2024</p> <p>Accepted: November 30, 2024</p>	<p><i>This research aimed to (1) identify whether digital games can improve students' vocabulary mastery abilities, and (2) to determine students' interest in learning vocabulary mastery using digital games. This research was conducted at SD IT Permata Insani Islamic School. This research was conducted in August–September 2023 through Classroom Action Research. It consists of two cycles, each cycle had four meetings. There are two types of data in this research, namely qualitative and quantitative data. Qualitative data was obtained by conducting direct observations in the classroom. Questionnaires, documentation and field notes were also used in conducting research. Quantitative data was student scores obtained from the test in each cycle. In analyzing quantitative data, descriptive statistics are used. In analyzing qualitative data, it is involved; (1) Data reduction (2) Data display (3) Drawing conclusions and verification. The research results showed that: 1) digital games improve students' vocabulary mastery. The increase of students' vocabulary mastery can be seen from the average score of the previous semester of 54.00; test 1 in the first cycle was 60 and the average of test 2 in the second cycle was 73. 2) Digital game techniques applied in class can also increase students' interest, interaction, self-confidence and motivation in class activities. Based on research results, teaching vocabulary using digital game methods is a suitable technique for improving students' vocabulary mastery. This study can be used as a reference for teachers in improving the quality of teaching by implementing techniques to improve students' vocabulary mastery abilities.</i></p>

1. Introduction

Vocabulary is a crucial element in teaching English, especially at the elementary school level. According to Liando et al. (2022) and Rahmadan et al. (2023), vocabulary is one of the fundamental components that support the four language skills, and it must be mastered by students. Since vocabulary forms the foundation of language proficiency, it is essential to introduce it when students begin learning English for the first time.

One of the common difficulties in learning English, particularly at the elementary school level, is vocabulary mastery. Students' limited ability to acquire vocabulary poses a significant challenge, as vocabulary is essential for understanding and succeeding in English learning. If this issue is not addressed effectively, students may struggle to comprehend English lessons, which in turn can lead to poor learning outcomes that fall below the minimum competency standards (KKM) set by the school.

As teachers, it is important to recognize our shortcomings in the teaching process. The researcher believes that monotonous learning is one of the main reasons students struggle with vocabulary acquisition and often forget word meanings easily. Repetitive methods, such as consistently using the same teaching strategy, can reduce students' interest in learning English and make them feel uncomfortable in class. This discomfort may disrupt subsequent lessons and hinder students' ability to retain what they have learned. According to Sudjana (2009), teaching methods are the approaches used by teachers to interact with students during the learning process. Student engagement plays a crucial role in the success of learning. One effective way to increase student interest is by incorporating engaging teaching media. Mones (2020) emphasizes that using interesting media can help students memorize and retain what they learn in class. Therefore, the researcher concludes that the use of engaging media not only facilitates student learning but also strengthens vocabulary retention.

Therefore, the researcher seeks various references and teaching materials that can enhance students' vocabulary and motivation in learning English. Muzayyanah (2015) found in her research that using Word wall games can improve students' vocabulary mastery. Based on the data analysis, it was evident that Word wall, as a teaching medium, significantly contributed to vocabulary improvement. In her study, 65% of the participants achieved the minimum competency standard (KKM) of 70. This was reflected in a 27.87% improvement in test results by the end of Cycle 2. Additionally, student observation indicators showed a 23.59% improvement between Cycle 1 and Cycle 2. Field notes also indicated that the teaching and learning process in Cycle 2 was more effective than in Cycle 1. Furthermore, the questionnaire results revealed a positive student response toward the use of Word wall in vocabulary learning. In this present study, the researcher wants to examine the use of Word wall in improving students' vocabulary.

2. Literature Review

2.1 Teaching English at Elementary School

According to Harmer (2007), people of different ages possess distinct characteristics, skills, and cognitive abilities. Therefore, it is essential for English teachers to adopt different teaching approaches for young learners compared to adults. As noted by Scott and Ytreberg (2004), young learners have unique traits that require special attention and tailored instructional methods to support their learning effectively.

2.1.1 Teaching English to Young Learners

Teachers need to understand the concepts of *language learning* and *language acquisition* when teaching English to young learners, such as elementary school students. Language acquisition refers to the unconscious process of picking up a language through exposure and interaction, while language learning involves the conscious study and use of language rules. Sundin (2020) explains that learning a language is essentially about "picking it up"—developing language skills through everyday communication. Children naturally acquire both their first language and, in many cases, a second language through this process.

2.1.2 Students' Interest in Learning

According to Hakim (2021), learning is defined as a process of developing an individual's personality, which is reflected in the enhancement of abilities, knowledge, attitudes, habits, understanding, skills, thinking, and other competencies, as well as in the improvement of both the quantity and quality of behavior. Van Eck, as cited by Sheila (2022), stated that online learning communities promote active discussion and socialization. These communities align with the principles of constructivist learning, in which individuals effectively acquire knowledge through experience and the construction of meaning within a social context.

2.1.3 Indicators of Learning Interest

According to Slameto, as cited by Mukrimaa et al. (2016), there are several indicators of students' interest in learning. These include feeling good, which refers to the students' positive emotional response toward the learning process; student attention, which reflects their focus and concentration during lessons; attraction, which involves the appeal and engagement level of the learning material or activity; and student involvement, which refers to the extent to which students actively participate in learning tasks and classroom interactions. The terms interest and attention are sometimes used interchangeably; however, students attention refers to their focus on observation and comprehension while putting other things aside. When a student is interested in something, they will inevitably notice it.

It is clear from the description above that Learning-related factors have a significant influence on students' understanding of the material. Students are more likely to grasp the content when their interests are taken into account. Therefore, teachers must be aware of and responsive to students' learning interests to support effective learning.

2.2 Game

According to Harahap et al., (2020) defined a game as a form of play that takes place within a simulated environment, where participants strive to accomplish a specific, nontrivial objective by following established rules. Meanwhile according to Rohmiyanti et al., (2021) a game is an activity with specific rules in which one person wins and another loses, typically in a lighthearted manner or for the purpose of relaxation. Based on the explanations provided, it can be inferred that games involve rules and a goal, and they serve as a means to disrupt the usual classroom routine, providing enjoyment and relaxation for students during the learning process. Games also offer a way for students to have fun while learning.

2.2.1 The Types of Games

The book on language learning games outlines four categories of games: classroom games, solo activities, pair work, and group activities. These categories highlight the importance of providing students with varied opportunities to practice speaking the language

orally. Additionally, they help promote peer interaction, which is essential for developing communicative competence.

According to Jill Hadfield in Nadzifah (2015), games in *Advanced Communication Games* are categorized into two types: competitive and co-operative games. Competitive games involve players or teams racing to be the first to reach a goal. In contrast, co-operative games require players or teams to collaborate in achieving a common objective.

Based on the information provided, it can be inferred that games can be played by individuals or groups of players, with the objective of winning or reaching the goal quickly. Games can also involve teamwork, group collaboration, individual competition, or pairs competing against each other.

2.2.2 The Purposes of Using Games

According to Gretchen E. Weed cited by Amaliyah, (2020) stated that using games in teaching language has many purposes as follows:

1. Physical activity: to release physical and nervous tension and increase mental alertness by breaking up the exercise routine.
2. Enjoyment: to create an atmosphere of interest and enjoyment so that students are excited about attending English classes. In addition, students can have fun outside of class by playing the activities they have learnt in class.
3. Cultural content: Games can be used to uncover cultural patterns, enhancing students' understanding of English-speaking peoples. For example, a simple game can illustrate the concept of individual competition and the recognition of a single winner who may receive a prize.
4. Language learning: Games can complement the teaching of grammar and pronunciation in language learning, providing practical context for understanding linguistic form and sound.

2.2.3 Word wall Game

Word wall is a game-based website application that can be used as a learning medium. Word wall media consists of several types of games that can be used, including quizzes, matching, anagrams, random words, word searches, grouping, etc. This medium is very suitable for use in every situation where several schools are still implementing the system of online learning or limiting class hours, so teaching and learning activities in schools are less effective.

2.2.4 Steps to Use Word wall

Please note that this Word wall-based media can be accessed via Android or laptop/PC and has a similar display, which is not much different if accessed in both. Here are the steps for using Word wall:

1. The teacher will share the assignment link with the students, and then the students Open the link and fill in the name column provided.
2. Next, students can press the start button.
3. The game starts; fill in according to commands or questions, with a timer that continues to run (if you activate the timer feature).
4. When they have finished working, students can see the score that was obtained.
5. If the teacher activates the repeat button, then the students who do less than optimally can repeat it.

6. Teachers can see the scores obtained by students in their accounts Word wall, namely by pressing the My Results button. From there, the teacher can see the ranking of students' grades from highest to lowest.

2.3 Vocabulary

According to Bai (2018) states that vocabulary is one of the most many vocabularies across all languages. As the basis of language learning, vocabulary development provides the foundation for students to learn English vocabulary and make informed use of a variety of English learning techniques. According to Wardani (2015), vocabulary is a crucial component of language because it is used in all four language skills listening, speaking, reading, and writing.

2.3.1 The Importance of Vocabulary

Vocabulary is essential for learning English, which is why it is crucial for students to develop their vocabulary. Kaloke et al. (2022) emphasized that vocabulary is vital because words serve as tools for thinking about and expressing ideas. Similarly, according to Lee C. Deighton, as cited by Triningrum (2019), vocabulary is a key component of linguistic proficiency; students with a strong vocabulary are more likely to succeed in both receptive skills (reading and listening) and productive skills (speaking and writing), while those with limited vocabulary may struggle in these areas.

2.3.2 Types of Vocabulary

According to Harmer (2007) cited by Lathifah et al., (2020) , there are two types of vocabulary:

- a. Active Vocabulary (Productive Vocabulary)
Productive vocabulary is the language that someone consistently uses while writing or speaking.
- b. Passive Vocabulary (Receptive Vocabulary)
Receptive vocabulary is a list of words students may not know, but they can understand when they read or listen to it. Students often use these words and are frequently unfamiliar with them.

3. Research Methodology

3.1 Research Design

In this research, the researcher employed Classroom Action Research (CAR) to address vocabulary problems among fourth-grade students at SD IT Permata Insani Islamic School in Kota Jambi by using digital games, implemented over two cycles. According to Gunday (2018), classroom action research involves a process where an individual teacher or a group of educators collects and analyzes data to evaluate and improve their teaching practices. Similarly, Creswell (2008) defines action research as a systematic approach undertaken by teachers or educators to enhance both teaching quality and student learning outcomes. The participants in this study were 22 fourth-grade students from SD IT Permata Insani Islamic School. The research was conducted during the first semester of the 2023/2024 academic year, specifically from August to September. Each cycle of research included four meetings.

3.2 Procedure of Classroom Action Research (CAR)

In this research, the researcher applied Classroom Action Research using Kemmis and McTaggart's model. This model was chosen because it follows a continuous cycle of steps:

planning the activities, taking action, observing the process, and reflecting on the outcomes. The model of action from Kemmis and McTaggart, as cited by Amrullah et al. (2019), was used as the framework for this study.

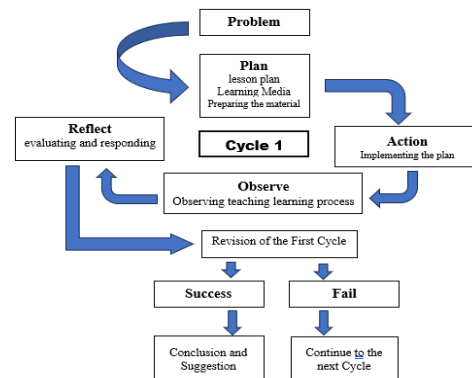


Figure 1. Modified from Kammish and McTaggart's Classroom Action

The procedure of this research consists of two cycles, each cycle would be held in four meetings, and then this research was done by using the following procedure:

1. Planning

Planning is the process of organizing actions that will be implemented in response to pre-observations. During this stage, the researcher prepared everything that would be required for the research such as: lesson plan, teaching media and all teaching materials and facility needed.

a. Action

The acting phase is where the researcher carries out the planned action.

b. Observation

The act of making notes and gathering information on any events that take place when actions are being carried out is known as observation

c. Reflection

Reflection is utilized to prepare planning activities following the application of previous actions. It is a process of evaluating and responding to what was done in class.

3.3 Technique of Collecting Data and Analysis

This research employed both qualitative and quantitative data. The qualitative data included observations and diary notes documenting the physical activities in the classroom. On the other hand, the quantitative data consisted of test results and questionnaire responses. To analyze the data, the researcher used both qualitative and quantitative data analysis. Qualitative data analysis involved data reduction, data display, and conclusion drawing and verification. Meanwhile, quantitative data analysis was conducted using SPSS and Excel as tools to measure and determine the students' average scores.

4. Findings

The findings of this research are based on students' test results, questionnaire responses, and observation checklists. The researcher will provide a more detailed discussion of these findings. Therefore, the following section presents a further explanation and analysis of the data collected. The table below shows the mean scores of the students' tests in each cycle.

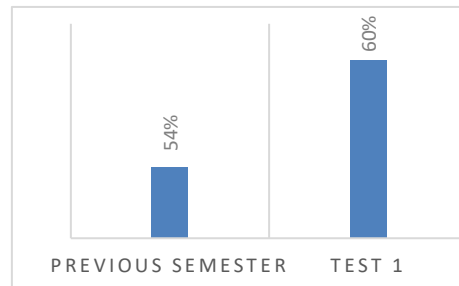


Figure 2. The Students' Improvement in vocabulary score in the First Cycle

The data shows that the average score in Test 1 was 60. Out of 22 students, 9 did not meet the minimum score criteria, while 13 students did. This indicates that the first criterion for success had not yet been achieved.

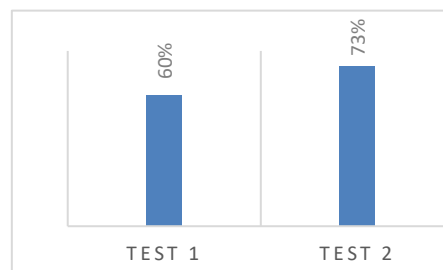
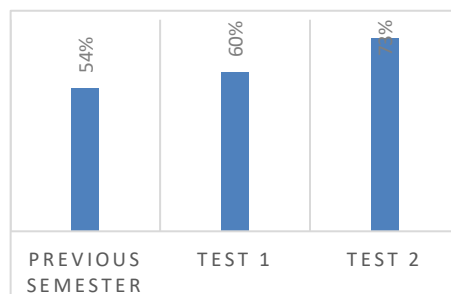


Figure 3. The Students' Improvement in vocabulary score in the Second Cycle

The data showed that the average score in Test 2 was 67.3%. Only 4 students did not meet the minimum score criteria, while 18 students did. This indicates that the second cycle met the success criteria.



.Figure 4. The Students' Improvement in vocabulary score in each cycle

Based on the picture above, the overall average score from the previous semester was 54%. After implementing the Word Wall game, the average score increased to 60% in Test 1. However, since several issues remained and the target score of 70% had not yet been reached,

the research continued to Cycle 2. In Cycle 2, there was a further improvement, with the average student score rising to 73%. As this result met the target, the researcher and collaborators concluded that the research objectives had been achieved and the study could be concluded.

Table 1. Mean Score of Students Observation Sheet

Students' Mean Score	Students Observations Sheet	
	Cycle 1	Cycle 2
	73%	87%

Through observation sheets, the improvements of students can be seen from students' attitudes such as paying attention to the teaching and learning process during class. It can be seen from the percentage in cycle 1 (73%) and a more significant increase during cycle 2 (87%). They also interact more often with other students in discussions.

4.2. Questionnaire

Questionnaires were used as a data collection method to find out how interested students are in learning vocabulary in English through digital games. Based on the findings of data collection using a questionnaire. Based on data from a questionnaire, 83% of students answered YES and 17% of students answered NO.

5. Discussion

The purpose of this research was to use digital games to help students improve their vocabulary mastery. One effective game used in this study was the Wordwall game, which proved to be beneficial for teaching vocabulary. This conclusion is supported by the researcher's analysis, which showed an increase in the mean score across each cycle.

In the first cycle, the average score was 60.73%, while in the second cycle, it was 73%. It was mentioned that the second cycle's mean and score were better than the first cycle. The percentage of students who got scores of 60 and above also increased. 13 out of a total of 22 students received a score of 60 or higher on the cycle I test. Then, in the second cycle, the students who got 60 points above were 18 of 22 students, or 73% if calculated as a class percentage. In all other respects, students were improving throughout the first cycle.

From the observations of researchers and collaborators, it can be concluded based on the data above that students are very interested in learning to use digital games. It can be seen in the behavior of students who want to compete to play digital games. And several students asked how to make a word wall game because they were so enthusiastic. There is a funny fact that when researchers conduct the research, namely, when the researcher gives quizzes to students, the researcher delays several days because there is still something to be revised from the quiz. Every day, almost all students ask when the quiz will be given.

It is also confirmed and strengthened by the results of the student questionnaire, the results show that students are very interested in using digital games, and it is also shown from the percentage of students that 83% of students have an interest in learning English using digital game media and are included in the "Excellent" category as a vocabulary learning medium.

6. Conclusion

Based on the results of the research, it can be concluded that digital games can effectively improve students' vocabulary and help them retain and recall vocabulary more easily. The use of digital games significantly increased students' interest and motivation during the learning process. The findings show that digital game-based techniques not only enhance vocabulary knowledge but also support better understanding and memorization. Students became more enthusiastic and active in class, and the flexibility of digital games allowed them to be used both at school and at home. Additionally, the use of digital games contributed to an improvement in students' English test scores. This is evident from the results of Cycles 1 and 2, which showed a significant increase. In the previous semester, only 5 students met the Minimum Completion Criteria, whereas in Test 2 of Cycle 2, 18 students passed, with the class average rising from 54% to 73%.

Based on the data, students were interested in learning English vocabulary through digital games. The majority of students showed a strong interest in learning when using digital games. Students in class become more enthusiastic and active when learning with digital game media. Students are interested in learning English vocabulary through digital games. The majority of students show a strong interest in studying when using digital games, according to the data gathered from the questionnaire there are 85% answered from the students said yes. This is evident from the responses that students answered on the questionnaire that the researchers used to find out if they were interested in using digital games.

References

- Amaliyah, D. (2020). *The effect of using word chain game on students' vocabulary mastery at seventh grade of SMP Ma'arif 1 Ponorogo* [Undergraduate thesis, IAIN Ponorogo].
- Aqib, Z., & Amrullah, A. (2019). *PTK: Penelitian tindakan kelas: Teori dan aplikasi*. Andi.
- Artawan, I. K. G., Arsana, A. A. P., & Kumara, D. G. A. G. (2022). The correlation between watching English movie habit and vocabulary mastery in the ninth grade student of SMPN 9 Denpasar in academic year 2021/2022. *Academic Journal on English Studies (AJOES)*, 2(2), 93–100.
- Bai, Z. (2018). An analysis of English vocabulary learning strategies. *Journal of Language Teaching and Research*, 9(4), 849–855.
- Bintz, W. P. (2011). Teaching vocabulary across the curriculum. *Middle School Journal*, 42(4), 44–53.
- Brooks, P., & Sundin, A. (2020). *The effectiveness of incidental vocabulary acquisition on L2 learners* [Bachelor's thesis, Malmö University].
- Cheng, Y., & Lou, S. (2012). The construction of an online competitive game-based learning system for junior high school students. *Journal of Educational Technology & Society*, 11(2), 214–227.
- Dwi, L. E. (2017). Improving students' vocabulary mastery through Pictionary board game at Grade IV B of Elementary School 36 Pekanbaru. *Journal of English Language Teaching*, 9(2), 1–16.
- Gunday, P. (2018). Shared writing strategy implementation to improve short essay writing skill of students at Level 3 Language Development Center in UIN Suska Riau. *Al-Ishlah: Jurnal Pendidikan*, 10(1), 56–68.
- Hakim, T. (2021). Applying the cooperative learning model type of Teams Games Tournaments (TGT) to increase mathematics learning outcomes for Class VIII students of S. Islamiah Hessa Air Genting Year 2019/2020. *Al'Adzkiya International of Education and Social (AloES) Journal*, 2(2), 197–206.

- Harahap, M. R., Hasibuan, S., Hidayati, I., & Harahap, F. I. N. (2020). *Pastap game development for learning badminton of the mild mental retardation* [Unpublished manuscript].
- Husna, N., Genta, G., Habibah, R., Hamid, F., Hidayat, D. N., & Widiastuty, H. (2022). The urgency of English teaching in private primary school: Stakeholders' perceptions. *Jurnal Basicedu*, 6(4), 6796–6804.
- Kaloke, C., Hampp, P., & Rombepajung, P. (2022). Increasing students' vocabulary by using word cards at SMPN 6 Kakas. *JoTELL: Journal of Teaching English, Linguistics, and Literature*, 1(6), 697–706.
- Liando, N. V. F., Tatipang, D. P., Tamboto, G., Poluan, M., & Manuas, M. (2022). Pictures as a learning media in teaching vocabulary. *Jurnal Ilmiah Universitas Batanghari Jambi*, 22(3), 1944–1949.
- McCarten, J. (2007). *Teaching vocabulary: Lessons from the corpus, lessons for the classroom*. Cambridge University Press.
- Mukrimaa, S. S., Nurdyansyah, Fahyuni, E. F., Citra, A. Y., Schulz, N. D., Ghassan, D., Taniredja, T., Faridli, E. M., & Harmianto, S. (2016). The effect of learning interest, learning facilities, and learning motivation on learning outcomes (Case study of UNJ office administrative education students). *Jurnal Penelitian Pendidikan Guru Sekolah Dasar*, 6, 128.
- Muzayyanah, N. (2015). Improving students' vocabulary mastery through Word Wall. *Jurnal Pendidikan Bahasa Inggris*, 151, 10–17.
- Nadzifah, A. (2015). *The use of alphabet game as a strategy to improve vocabulary skill in fourth grade students of MI Islamiyah (Academic Year 2014–2015)* [Undergraduate thesis, UIN Sunan Ampel Surabaya].
- Panjaitan, L. M. (2021). Improving students' vocabulary mastery by using puzzle game at the second grade of MTs Al-Washliyah Medan. *Journal of English Language and Education*, 129–141.
- Pendidikan, B., Fkip, J., Surabaya, U., & Xvi, T. (2020). The effectiveness of flashcards in teaching vocabulary for. *Journal of English Education*, 29.
- Prabantari, A., Asib, A., & Sarosa, T. (2014). Improving the students' vocabulary mastery using Snakes and Ladders game. *English Language Teaching*, 1, 1–12.
- Rahmadan, M. K., Abrar, M. A., Failasofah, F., & Masbitorotni, M. (2023). Investigating EFL kindergarten teachers' media and challenges in teaching vocabulary. *JELITA: Journal of Education, Language Innovation, and Applied Linguistics*, 2(1), 22–33.
- Rennie, F., & Morrison, T. (2013). *E-learning and social networking handbook: Resources for higher education* (2nd ed.). Routledge.
- Rinvoluceri, M., & Davis, P. (1995). *More grammar games: Cognitive, affective and movement activities for EFL students*. Cambridge University Press.
- Rohmiyanti, W., Latif, A., Syafira, I., Wahiddatul, S., & Haryanto, A. D. (2021). Penggunaan media pembelajaran berbasis game edukasi sebagai upaya meningkatkan minat belajar siswa sekolah dasar. *SEMAI: Seminar Nasional PGMI*, 1(1), 809–826.
- Sanjaya, D. R. H. W. (2016). *Penelitian tindakan kelas*. Prenada Media.
- Saputro, S. A. J. I. (2020). *Pembuatan aset animasi 3D Bumi, Jupiter, dan Saturnus untuk game Sci-Fi Persia* [Undergraduate thesis, Universitas Gadjah Mada].
- Sekar, A. L. (2022). Students' interest in learning English vocabulary using live worksheet media during online class. *Journal of Language Learning*, 8(5), 2003–2005.
- Siregar, S. (2019). *Improving students' vocabulary mastery through Duolingo game at ninth grade of MTs Al-Ittihadiyah Laut Dendang* [Undergraduate thesis, IAIN].

- Sudijono, A. (2021). *Pengantar statistik pendidikan*. Rajawali Pers.
- Sugiyono. (2013). *Metode penelitian pendidikan: Pendekatan kuantitatif, kualitatif, dan R&D*. Alfabeta.
- Sukarno, T. M. (2008). Teaching English to young learners and factors to consider in designing the materials. In *Prosiding Seminar Nasional Pendidikan Bahasa Inggris* (pp. 57–73). Universitas Negeri Yogyakarta.
- Tarbiyah, F. O. F. (2011). *Using games in improving students' vocabulary* [Manuscript, Unpublished].
- Triningrum, M. (2019). *The effectiveness of anagram technique in teaching vocabulary to the eighth grade of MTs Tri Bhakti Pagotan in academic year 2019/2020* [Undergraduate thesis, IAIN Ponorogo].