

An English Vocabulary Learning through Word Games: Serendipitous Community Service

JAYA NUR IMAN

English Education Study Program (Universitas Indo Global Mandiri)
Email: jaya@uigm.ac.id

Received 10 December 2025 | Revised 23 January 2026 | Accepted 28 January 2026

ABSTRACT

*Mastering English vocabulary is something mandatory in learning integrated English language skill for EFL learners as this could enhance their English competence and performance. This community service was conducted in a serendipitous way in which it was aimed to apply games in teaching English vocabulary. Thirteen female participants were taken conveniently as the sample during the intervention. One orphanage in Southern region of Sumatera, Palembang was accordingly selected for this activity. To assess the EFL participants' English vocabulary score, a well-designed English vocabulary test was finely administered before and after game-based intervention. The findings showed that using games gave a significant impact on the EFL learners' English vocabulary mastery as the result of *t* obtained value was much higher than the *t* table ($10.645 > 2.179$) and the *p* value gained was much lower than $.05 (.000 < .05)$. Overall, some meaningful implications were made to the near future facilitators, relevant researchers, and other EFL learners to integrate games in English vocabulary learning as this creates a more relaxing atmosphere of learning English words.*

Keywords: English vocabulary learning, word game, community service

1. INTRODUCTION

English vocabulary mastery is generally seen as one of vital parts in English language learning particularly on the learning receptive skills and productive skills. Having many English vocabulary stocks and practicing them in English language acquisition are the key factors to the success of English language learning. Apart from that, students consider vocabulary acquisition to be one of the most challenging aspects of language learning. Nonetheless, vocabulary is regarded as one of the language's subskills (**Orfan, 2020**). However, there is not much focus on making it easier and simpler to improve learners' vocabularies. Additionally, vocabulary knowledge enhances a student's social potential and communicative abilities. Different approaches and strategies can be useful for helping learners improve their vocabulary. However, there are no explicit guidelines that permit learners to acquire vocabulary. Each student develops their vocabulary in a different way. Numerous studies have demonstrated that using games to learn new vocabulary can improve vocabulary retention and make language learning enjoyable and motivating (**Hoa & Trang, 2020; Ma & Yodkamlue, 2019; Selvi & Çoşan, 2018**).

On the other hand, there were some barriers faced by English language learners in acquiring English vocabulary. When learning English in an EFL classroom, young learners in particular tended to become bored and inattentive since the EFL materials were not interesting or creative. They were also proficient in speaking and spelling English words and letters. Another problem was their lack of interest in the situation and condition of the class because of the inadequate media provision. Furthermore, a number of research have demonstrated that poor vocabulary retention and knowledge hinder language development (**Wright et al., 2021**). Additionally, many learners have difficulties memorizing and even understanding English vocabulary, so it is vital to apply a solution to solve this widespread problem (**Ankawi, 2022; Hasan, 2024**). Moreover, learners frequently struggle to commit new English vocabulary to memorize (**Rosyada-AS & Apoko, 2023; Tsuraya & Awaliah, 2022**). Despitefully, many language learners believe that acquiring vocabulary is tedious and difficult, and they frequently get disappointing results because of memory loss. This causes them to become frustrated and want more efficient techniques (**Zou et al., 2021**). Thus, it could be further asserted that the English language learners still have English vocabulary learning problems which hamper their road to the English learning success.

Concerning on the EFL learners' problems hindered the learning to acquire English vocabulary, the instructor needs to have an interactive instructional media, material and a proper instructional technique to get them more motivated and enthusiastic in English vocabulary learning. Besides, by using an engaging teaching strategy, educators can help learners grasp the subject matter. Therefore, using efficient and captivating English teaching techniques will significantly help students become more enthusiastic about learning and to understand the course with high motivation (**Chen & Hsu, 2020**). In line with that, teaching young students with instructional media can improve language acquisition by making learning engaging, creative, and communicative (**Petina et al., 2023**).

Games or plays are very beneficial and useful for learning new vocabulary. It will foster a welcoming situation in the classroom where all students are engaged in an enjoyable and competitive style of learning. In this manner, when working in a group, the students will be able to help one another with problems. Additionally, they will foster students' creativity and improve their capacity to learn the language in an enjoyable way (**Akramy, 2020; Rasti-Bebehani & Shahbazi, 2022**). In line with that, **Prabha & Abdul Aziz (2020)** stated that games should offer students a relaxing and enjoyable educational experience. After learning and applying new terminology, students can utilize language in a stress-free manner. Even yet, students focus more on the meaning than the language when learning vocabulary. Having the similar mind, by mixing enjoyment, competition, and teamwork, playful learning enhances vocabulary memory more effectively than rote memorization (**Loor, 2025**). Additionally, there are two types of playful activities: digital and non-digital. Digital activities include computer, mobile, or video-based games, whereas non-digital activities use physical or visual aids like boards, cards, and tangible teaching materials (**Naderi & Moafian, 2023**). In line with that, learning vocabulary using games has been increasingly common in recent years (**Lai & Chen, 2023**). Teachers and academics have increasingly concentrated on digital game-based vocabulary acquisition to increase interest and motivation in education because of their capacity to engage and motivate students (**Zou et al., 2021**). A particular type of game designed especially to be played on digital devices is known as digital game-based learning, or mobile game-based learning (**Wati et al., 2020**). In association with the description above, it could be then stated that games or plays both digital and non-digital potentially enhances the EFL learners' English vocabulary mastery as this playful activity involves engagement, creativity, and teamwork in a joyful manner.

Some recent investigations were previously done pertaining to game-based instruction in English vocabulary enhancement. For many years, games have been a popular way to teach and acquire vocabulary. Students' enthusiasm and active participation in the classroom are encouraged during the learning process (**Helingo, 2022**). According to **Hanafie et al. (2022)**, a web-based game is a software program that is housed on internet servers and can only be accessed by players using a web browser and an internet connection. Besides, using entertaining materials in English classes both traditional and digital games—improves language attitudes, lowers anxiety, and increases vocabulary acquisition (**Loor, 2025**). Although academic interest in digital game-based vocabulary learning is expanding, there are still few empirical investigations (**Zou et al., 2021**). In addition, the academic world has paid close attention to digital game-based learning in recent decades. According to some relevant research, adding educational content to video games boosts students' engagement, motivation, and performance (**Yang et al., 2020**). Additionally, it is crucial to grab students' interest and establish a more engaging and interactive learning environment. Using multimedia resources like instructional games, interactive applications, and movies, students can engage with the material more dynamically, keeping them motivated and focused (**Guo, 2022**). Furthermore, (**Syakir, 2020**) stated that the use of word game could expand the EFL learners' English vocabulary acquisition. Besides, this result is also in association with research findings of **Teng (2023)** which revealed that multimedia applications enhance vocabulary acquisition by offering a contextualized and captivating educational experience. Additionally, examining the efficacy and efficiency of the Game-Based Learning (GBL) approach in English language training to improve the caliber and interactive nature of classroom learning was another goal of its adoption (**Pan et al., 2021**). For that reason, it could be clearly said that using games is potentially impactful on the EFL learners' English vocabulary acquisition.

In association with the narrated rationale, encountered problems, and prior research above, the researchers, who acted as the facilitator, was strongly intended to get the gap filled by carrying out word game as an educational game by combining two games simultaneously in instructing English vocabulary to the EFL participants. This was done to track whether or not using word games were significantly beneficial for EFL learners to promote their English vocabulary mastery. This was also exceedingly expected to get the EFL learners more engaged and relaxed in English learning particularly on English vocabulary acquisition.

2. METHOD

This serendipitous community service was carried out to facilitate the EFL learners with English vocabulary game, word game, to way up the English vocabulary mastery. This used one group pretest-posttest design as displayed in diagram 1. One group was taken as the sample conveniently. This comprised of thirteen female participants with 13 – 18 years old. This community service was conducted in one orphanage in Palembang, Southern Region of Sumatera. The English vocabulary test administration was utilized before and after treatment to eye the English vocabulary achievement.

Diagram 1. One group pretest-posttest design



Note:

O₁ = Pretest administration X = Treatment/Intervention O₂ = Posttest administration

Additionally, a well-structured procedure in using word game in English vocabulary acquisition were employed as follows: (1) the instructor gave a pretest and attendance list to fill in, (2) the instructor asked the English learning problems encountered by the participants, (3) the problems were itemized and discussed one by one particularly on English vocabulary problems, (4) Two games, shooting the balloon and word generating game (Word Shake), and its rule were explain properly to the participants, (5) Before playing the game, the participants were asked to form a group consisting of four persons and were exposed with two themes, action and birthday, and its pictures, (6) then one member was chosen to come forward to match the English words and the displayed pictures and after that they have to shoot the balloons based on the matched English words, this ran simultaneously., (7) afterwards, the theme-based English words then were spelled out and pronounced chorally and individually, if they still mispronounced the words, there were asked to repeat them individually, (8) Another game to play that is word generating game (Word Shake) in which the participants worked in group to gain English words as many as possible they could get based on the time limited by arranging the letters into a meaningful words, this was done as a supporting game to enrich the participants' English vocabulary. (9) the English words generated were practiced individually and chorally, gentle correction was given if they made a word mispronunciation., (10) the winning group was given a present as they succeeded to run the game smoothly., (11) To check whether they have a good and proper pronunciation, some English vocabulary words displayed on the board were proposed to the participants to have individual practice., (12) After the treatment was done, posttest administration was undergone to attain their English vocabulary achievement. Figure 1 and 2 showed community service performed by the facilitator in the orphanage of South Sumatera, Palembang.



Figure 1. Exposing the Games Intervention



Figure 2. Incorporating the Games

Despitefully, after gaining the participants' score attainment, the pretest and posttest were marked and tabulated in a well manner. Besides, their English vocabulary attainment was taken into statistical analysis descriptively by using SPSS program. This was for finding out the scores attained in pretest and posttest before receiving a proper treatment. Some relevant descriptive analyses were taken into consideration to compute such as the highest and lowest score, mean score, mode, median, standard deviation, t-obtained, degree of freedom, and p value. To compute those aspects of statistical analyses, descriptive statistics and paired samples t test were properly used in SPSS program. Above all, a well-structured and a thorough interpretation or discussion was written accordingly, systematically and meticulously.

3. RESULTS AND DISCUSSION

Having finished collecting and analyzing the participants' score data accordingly from the community service, it was gained that the attained lowest score attained in the pretest was 50 and the attained highest score was 80. Furthermore, the mean score gained was 66.15, the median score gained was 70, the gained mode score was 70, and the obtained standard deviation was 11.209. On the other side, it was also revealed that the lowest score generated was 90 and the generated highest score was 100. Furthermore, the mean score generated was 97.69, the median score generated was 100, the mode score generated was 100, and the generated standard deviation was 4.385. Additionally, after having computed the participants' data with descriptive statistics analysis, a progressive analysis with paired samples t-test was done in order to find out the participants' progress after having intervened with word game. The findings revealed that as presented in table 1 the gained mean score was 31.538, the obtained standard deviation was 10.682, the t obtained was 10.645, the degree of freedom earned was 12, and the p value (2-tailed) was .000. As the t obtained value was much higher than the t table ($10.645 > 2.179$) and the p value gained was much lower than .05 ($.000 < .05$), therefore it could be further asserted that there was a significant improvement made by the participants after getting treated with word game in instructing English vocabulary.

Table 1. Paired Sample Test Computation

	Paired Differences					t	df	Sig.(2-Tailed)			
	Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference							
				Lower	Upper						
Pair 1											
Pretest-Posttest	31.538	10.682	2.963	37.993	25.083	10.645	12	.000			

After finishing the computation of the two statistical analyses, it could be vividly seen from the results that there was a better achievement made by the participants in English vocabulary after being given a treatment with a word game. Besides, after gaining the results of pretest and posttest administration, it could be succinctly verbalized that learning English vocabulary with word game was significantly impactful on the participants' English vocabulary mastery.

This significant improvement might be caused by the various pictures exposed to the participants in which it attracted them to be more involved in learning English vocabulary through game played. Another plausible caused was that they participants were asked to

repeat the English vocabulary learnt from the games chorally and individually. Apart from that, simultaneous games, both shooting the balloon and word generated game, drove the participants work more collaboratively which allowed them to learn new English vocabulary among their peers. Furthermore, an enjoyable and fun learning through word games activated their learning motivation and interests in learning English vocabularies in a non-stressful way. This also got the participants' anxiety and fear reduced in learning English in particular. In other words, games-oriented learning could significantly improve the EFL learners' English vocabulary mastery and create a more relaxing atmosphere of learning English.

The current findings of the study are consistent with research by **Alhajaji et al. (2020)**, **(Vásquez & Ovalle (2019)**, **Karaaslan et al. (2018)**, and **Miyazaki (2019)**, which found that educational games are essential for increasing vocabulary knowledge. Prior to this, they thought learning English was difficult, but when educational games were used in the classroom, the learners became more enthusiastic and eager to participate in the lesson. In addition, games foster a friendly situation in the classroom where all students are engaged in an enjoyable and competitive style of learning. In this manner, when working in a group, the students are able to help one another with problems. Furthermore, they will also foster students' creativity and improve their capacity to learn the language in an enjoyable way (**Akramy, 2020; Rasti-Behbahani & Shahbazi, 2022**).

Apart from that, **Naderiheshi (2022)** suggested a two-step method for learning vocabulary through entertaining activities: putting students in groups and giving them precise directions and explanations. Additionally, vocabulary acquisition is the cornerstone of EFL learning and plays a significant role in the process, deserving of scholarly attention. In addition, according to **Li & Kangas (2024)** and **Ollonen & Kangas (2024)**, incorporating more entertaining methods into the classroom promotes the development of creative and literacy abilities while also creating a favorable learning atmosphere. Additionally, **Sáez and Espinoza (2023)** pointed out that this game-based method can make learning less stressful and more pleasurable for learners, boosting their drive to learn and aiding in the retention of new vocabulary. Having similar findings, compared to teachers who teach their students using traditional language, **Hoa and Trang (2020)** found that teachers who utilized games to teach new English vocabulary to their students had a more enjoyable and pleasant environment. This conclusion is also supported by **Dindar et al. (2021)**, who concentrated on teaching students using educational games in which students can increase their engagement, learn new vocabulary, and explain it by playing instructional games. Having similar thoughts, students are more likely to get involved in class and successfully internalize new vocabulary when game-based learning is adopted (**Hasanah, Eviyuliwati, & Defianty, 2022**).

4. CONCLUSIONS

Having completed the computation of statistical analyses and narrated research interpretation, the institutional purpose of the community service had been addressed by giving an intervention to participants especially on the use of word game in teaching English vocabulary. Furthermore, the findings of the participants' achievement before and after the community service conducted showed a significant improvement and progress viewed from statistical computation. Thus, it could be vividly stated that using word game enhances the EFL learners' English vocabulary significantly and progressively.

Regarding the research findings and interpretation, several implications were drawn to the EFL participants in learning English vocabulary by using word game so that they could enrich their English vocabulary mastery. Afterwards, when they get some new English vocabulary, the EFL learners could use it in a daily communication. Moreover, it is strongly advised that the near future researchers or other facilitators could utilize this instructional and interactive media equipped with the regular practice to gain a betterment in results orientation. At last, it is truly recommended to use the educational games in promoting the EFL learners' English vocabulary acquisition as this offers mental and physical involvement and more on learners-oriented learning. Also, this allows the EFL learners to learn English vocabulary in a fun and more structure way and promotes the learning engagement in English vocabulary mastery. Another combination of game playing, different instructional delivery and learning media implemented on dissimilar participants to grab much more insightful and thorough analyses were also highly recommended for others researchers or facilitators.

ACKNOWLEDGEMENT

I would like to express my special thanks to the Board of 'Aisyiyah Humairah Orphanage for welcoming the PKM Team from Indo Global Mandiri University. Additionally, the members of the "Aisyiyah Humairah Orphanage" for their excellent cooperation throughout the community service project and Indo Global Mandiri University for their significant academic and meaningful contributions to the PKM Team are also highly appreciated.

LIST OF REFERENCES

Akramy, S. A. (2020). Speaking anxiety in an Afghan EFL setting: A case study of an Afghan University. *Language in India*, 20(12), 161–182. <https://doi.org/https://dergipark.org.tr/en/pub/ijqe/issue/70157/1125476>

Alhajaji, B. H., Algmadi, J. S., & Metwally, A. A. (2020). Exploring the success of GMT technique: Games, mind-mapping, and twitter hashtags in teaching vocabulary in EFL higher education environment. *International Journal of Higher Education*, 9(3), 290–299. <https://doi.org/10.5430/ijhe.v9n3p290>

Ankawi, A. (2022). Academic vocabulary acquisition difficulties for Saudi postgraduate students in New Zealand universities. *English Language Teaching*, 15(9), 138–150. <https://doi.org/10.5539/elt.v15n9p138>.

Chen, Y. L., & Hsu, C. C. (2020). Self-regulated mobile game-based English learning in a virtual reality environment. *Computers & Education*, 154(1), 103910. <https://doi.org/10.1016/j.compedu.2020.103910>

Dindar, M., Ren, L., & Järvenoja, H. (2021). An experimental study on the effects of gamified cooperation and competition on English vocabulary learning. *British Journal of Educational Technology*, 52(1), 142–159. <https://doi.org/10.1111/bjet.12977>

Guo, H. (2022). *Mobile assisted language learning (MALL) from a sociocultural ecological*

perspective: An exploratory study of overseas Chinese students in the UK learning English speaking skills with mobile apps outside the classroom. Doctoral thesis (Ph.D), UCL (Univers. <https://discovery.ucl.ac.uk/id/eprint/10160807>

Hanafie, N., Bakhtiar, B., & Darmawati, D. (2022). The Effect of Online Games on Changes in Student Behavior in Middle Schools. *International Journal on Advanced Science, Education, and Religion*, 5(2), 48–59. <https://doi.org/10.33648/ijoaser.v5i2.178>

Hasan, N. R. H. (2024). A study on student's challenges and problems in learning English vocabulary. *International Journal for Scientific Research*, 3(6), 207–227. <https://doi.org/10.59992/ijsr.2024.v3n6p7>

Hasanah, R., Eviyuliwati, I., & Defianty, M. (2022). The effect of guessing game on students' vocabulary knowledge. *Journal of English Language and Education*, 7(1), 46–52. <https://doi.org/10.31004/jele.v7i1.204>

Helingo, A. (2022). YouTube as learning medium for promoting EFL students' reading habit and motivation. *Journal of English Language and Education*, 7(1), 28–34. <https://doi.org/10.31004/jele.v7i1.184>

Ho, T. M., & Trang, T. T. T. (2020). Effect of the interactive whiteboard on vocabulary achievement, vocabulary retention and learning attitudes. *Anatolian Journal of Education*, 5(2), 173–186. <https://doi.org/10.29333/aje.2020.5215a>

Karaaslan, H., Kilic, N., Guven-yalcin, G., & Gullu, A. (2018). Students' reflections on vocabulary learning through synchronous and asynchronous games and activities. *Turkish Online Journal of Distance Education*, 19(3), 53–70. <https://doi.org/10.17718/tojde.444640>

Lai, K. W. K., & Chen, H. J. H. (2023). A comparative study on the effects of a VR and PC visual novel game on vocabulary learning. *Computer Assisted Language Learning*, 36(3), 312–345. <https://doi.org/10.1080/09588221.2021.1928226>

Li, X., & Kangas, M. (2024). A systematic literature review of playful learning in primary education: Teachers' pedagogical activities. *Education*, 3(13), 1–16. <https://doi.org/10.1080/03004279.2024.2416954>

Loor, S. (2025). Playful learning game to improve vocabulary acquisition in the English language. *Reincisol*, 4(7), 702–717. [https://doi.org/10.59282/reincisol.V4\(7\)702-717](https://doi.org/10.59282/reincisol.V4(7)702-717)

Ma, X., & Yodkamlue, B. (2019). The effects of using a self-developed mobile app on vocabulary learning and retention among EFL learners. *PASAA*, 58(1), 166–205. <https://doi.org/10.58837/CHULA.PASAA.58.1.7>

Miyazaki, K. (2019). The effect of an online vocabulary learning tool on passive and active

vocabulary use at a range of proficiency levels. *Journal of Pan-Pacific Association of Applied Linguistics*, 23(1), 85–108. <https://doi.org/10.25256/paal.23.2.5>

Naderi, S., & Moafian, F. (2023). The victory of a non-digital game over a digital one in vocabulary learning. *Computers and Education Open*, 4, 100135. <https://doi.org/10.1016/j.caeo.2023.100135>

Naderiheshi, A. (2022). Review of literature on teaching English vocabularies through games to young language learners. *Journal of Language Teaching and Research*, 13(1), 12–19. <https://doi.org/10.17507/jltr.1301.02>

Ollonen, B., & Kangas, M. (2024). Teacher motivational scaffolding and preschoolers' motivational triggers in the context of playful learning of multiliteracy and digital skills. *Early Childhood Education Journal*, 53(4), 1079–1093. <https://doi.org/10.1007/s10643-024-01664-2>

Orfan, S. N. (2020). Afghan undergraduate students' attitudes towards learning English. *Cogent Arts and Humanities*, 7(1), 1–23. <https://doi.org/10.1080/23311983.2020.1723831>

Pan, L., Tlili, A., Li, J., Jiang, F., Shi, G., Yu, H., & Yang, J. (2021). How to implement game-based learning in a smart classroom? A model based on a systematic literature review and delphi method. *Frontiers in Psychology*, 12, 749837. <https://doi.org/10.3389/fpsyg.2021.749837>

Petina, F., Irdiyansyah, I., & Suryanti, Y. (2023). The implementation of instructional media in teaching English to Young Learners. *Journal of English Language Studies Volume*, 5(1), 36–46. <https://doi.org/10.55215/jetli.v5i1.7144>

Prabha, T., & Abdul Aziz, A. (2020). Effectiveness of using poly category mind map for vocabulary development. *Arab World English Journal*, 11(2), 214–231. <https://doi.org/10.24093/awej/vol11no2.15>

Rasti-Behbahani, A., & Shahbazi, M. (2022). Investigating the effectiveness of a digital game-based task on the acquisition of word knowledge. *Computer Assisted Language Learning*, 35(8), 1920–1945. <https://doi.org/10.1080/09588221.2020.1846567>

Rosyada-AS, A., & Apoko, T. W. (2023). Investigating English vocabulary difficulties and its learning strategies of lower secondary school students. *Journal of Languages and Language Teaching*, 11(3), 489. <https://doi.org/10.33394/jollt.v11i3.8404>

Sáez, A. R., & Espinoza, A. Q. (2023). Baamboozle's influence on willingness to communicate in English in small group private lessons. *Journal of Namibian Studies*, 34, 6646–6661. <https://doi.org/10.59670/jns.v34i.2674>

Selvi, M., & Çoşan, A. Ö. (2018). The effect of using educational games in teaching kingdoms of living things. *Universal Journal of Educational Research*, 6(9), 2019–2028. <https://doi.org/10.13189/ujer.2018.060921>

Syakir, A. (2020). Developing students vocabulary at elementary school by using word game. *Mahaguru: Jurnal Pendidikan Guru Sekolah Dasar*, 1(2), 38–45. <https://doi.org/10.33487/mgr.v1i2.575>

Teng, M. F. (2023). The effectiveness of multimedia input on vocabulary learning and retention. *Innovation in Language Learning and Teaching*, 17(3), 738–754. <https://doi.org/10.1080/17501229.2022.2131791>.

Tsuraya, A. S., & Awaliah, I. M. (2022). The students'adversities in memorizing vocabulary. *English Language Teaching for EFL Learners Journal*, 4(2), 91–99. <https://doi.org/10.24252/elties.v4i2.32071>

Vásquez, G. C., & Ovalle, J. C. (2019). The influence of video games on vocabulary acquisition in a group of students from the BA in English teaching. *GIST Education and Learning Research Journal*, 19(19), 172–192. <https://doi.org/10.26817/16925777.707>

Wati, I., F., & Yuniawatika. (2020). Digital game-based learning as a solution to fun learning challenges during the Covid-19 pandemic. *Proceedings of the 1 St International Conference on Information Technology and Education (ICITE) (Pp.:202–210*, 202–210. <https://doi.org/10.2991/assehr.k.201214.237>.

Wright, T. S., Cervetti, G. N., Wise, C., & McClung, N. A. (2021). The impact of knowledge-building through conceptually-coherent read aloud on vocabulary and comprehension. *Reading Psychology*, 43(2), 1–15. <https://doi.org/10.1080/02702711.2021.2020187>

Yang, Q. F., Chang, S. C., Hwang, G. J., & Zou, D. (2020). Balancing cognitive complexity and gaming level: Effects of a cognitive complexity-based competition computers game on EFL students' English vocabulary learning performance, anxiety and behaviors. *Computers & Education*, 148(April). <https://doi.org/10.1016/j.compedu.2020.103808>.

Zou, D., Huang, Y., & Xie, H. (2021). Digital game-based vocabulary learning: where are we and where are we going? *Computer Assisted Language Learning*, 34(5–6), 751–77. <https://doi.org/10.1080/09588221.2019.1640745>.