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Teaching English vocabulary to students through online games
Enseñanza de vocabulario en inglés a través de juegos en línea a estudiantes

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ABSTRACT

The objective of this study is to explore the impact of the use of online educational games in comparison with traditional classroom methods to teach English vocabulary to eighth grade students at Mercedes Vázquez Correa School. The quantitative approach was used, with a participation of 13 students for this research. Through a vocabulary retention test, results were obtained showing that students remember a greater amount of vocabulary through traditional methods; however, students remember a greater amount of words accurately with the use of online games. In addition, the survey data reveal that students are comfortable with online games and that they prefer to learn vocabulary through online games rather than through drawings or flashcards in class.

Descriptors: Teaching methods; educational games; teaching materials. (UNESCO Thesaurus).

RESUMEN

El objetivo de este estudio parte por explorar el impacto del uso de juegos educativos en línea en comparación con los métodos tradicionales en clase, para enseñar el vocabulario de inglés a los estudiantes de octavo grado en la escuela Mercedes Vázquez Correa. Se utilizó el enfoque cuantitativo, con una participación de 13 estudiantes para esta investigación. Por medio de un test de retención de vocabulario se obtuvieron los resultados en los cuales se demuestra que los estudiantes recuerdan una mayor cantidad de vocabulario por medio de los métodos tradicionales, sin embargo, el alumnado recuerda una mayor cantidad de palabras con precisión con el uso de los juegos en línea. Además, los datos de la encuesta revelan que los estudiantes se encuentran a gusto con los juegos en línea y que ellos prefieren aprender vocabulario con los juegos en internet que por medio de los dibujos o fichas en clase.

Descriptores: Método de enseñanza; juego educativo; material didáctico. (Tesoro UNESCO).

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INTRODUCTION

Vocabulary is the basis for communicating in oral and written ways in any language. According to (Jannah et al. 2020), teaching vocabulary has become an important aspect for learning English language because without sufficient vocabulary, students cannot understand others or express their own ideas. According to (Andi & Arafah, 2017) the vocabulary acquisition and its extensive knowledge enable the English skills of the learners, developing interactivity or communication through the English language. Students and teachers realize the importance of learning vocabulary for communicating with people in the English language. However, very little research has been done to discover that learning English vocabulary could be difficult for learners (Vasileiadou & Makrina, 2017).

To enable students to learn English vocabulary in an innovative way, teachers must find the most effective method to teach it, such as teaching through digital tools (Alamr, 2019). However, there are some unsatisfactory methods and techniques that have not been successful in teaching vocabulary in the classroom, such as the traditional methods that have been developed on top of the current education programs (Andreani & Ying, 2019). According to some studies, there is an effective method to help teachers introduce vocabulary in a different way in their English classes; this is using online educational games in their classrooms (Seli, 2015). It is necessary to consider that the current learners are Digital Natives and Digital Immigrants since they born in the digital era and know how to use computers, video games, cellphones and other technological tools and toys. On the contrary, there are some learners who are digital immigrants because they are not born in this digital era. Like so, they have to learn how to use the different technology and moreover they are in the process of learning a new language (Prensky, 2001).

Another study has realized about the effectiveness of applying these kinds of games in the vocabulary learning process. For (Gozcu & Caganaga, 2016) a relaxing learning atmosphere is created by using online Educational games. Besides (Septian, 2019), has focused on the positive impact of applying online games on the learning process. Learners

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learn English while they play online games because the games are made from English countries, places where English is the main language.

Therefore, this research focuses on analyzing the impact of using online educational games in comparison to traditional in-class methods to teach English vocabulary to eighth grade students at Mercedes Vazquez Correa (MVC). Moreover, this study examines the perceptions of these students regarding the use of educational online games and traditional methods to learn English vocabulary.

Theoretical framework

What is vocabulary?

According to (Alqahtani, 2015), vocabulary is the total number of words required to communicate ideas and express the meaning of the speakers because it allows the learning of foreign language vocabulary either in the classroom or with didactic material such as books. It is also elementary for language teaching (Cummings et al. 2018), establish whether students do not know the meaning of new words, they will not understand any text, and they will not be able to comprehend the meaning of it.

Vocabulary is the most essential tool of thought, emotion and speech, enabling reciprocal understanding and communication between people (Shadiev et al., 2020). Vocabulary is comprised of the grouping of terms of a language understood by an individual and used for everyday interactivity (Shabaneh & Farrah, 2019).

What are online games?

In particular, the pursuit of educational development through online games has made it possible to be a broad and deep attraction in the learning environment; the effect of online games in language learning has proved to be very significant, generating motivation, engagement, vocabulary improvement and breadth in communicative interactivity (Hong et al. 2017; Zhang et al. 2017). In that sense, games are effective tools to teach English as a second language to learners (Sevilla-Vallejo, 2021). Online games are played online

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on the Internet; usually all that is needed to play internet games is a web browser and the correct plug-in. Online games have the potential to vary from primordial script-based games to games that unite complicated graphics and virtual universes populated by multiple players in parallel (Wiggins, 2016). In this way, online games from the educational paradigm can be understood as a playful and interactive material in which different topics can be understood, enhancing different educational skills of the student (Azman & Farhana, 2018).

Connectionism theory

Connectionism is an articulation of neuroscience and cognitive science, which imitates the cognitive function of the subject, not by means of information computation, but from the direction of resources of a network that tries to imitate the structure of the central nervous system (Caballero de la Torre & Robles, 2005). Apart from that, connectionism is the progressive development in the new acquisition forms of knowledge; thus, the effect of technology - digitalization in the environment influences the development of knowledge (Islas, 2021).

Thus, from connectionism (Lightbown & Spada, 2013) found that the acquisition of languages is possible thanks to the general cognitive abilities of children and the enormous share of the possibilities that they have to establish a connection between the language they hear and what they experience in their field. In addition, the acquisition of language connects words not only to sources of external truth, but also it connects to other words or phrases that are associated with them.

Literature review

Regarding to the importance of vocabulary (Alqahtani, 2015), has found that vocabulary is a crucial part of learning a language. It is necessary to comprehend that lexical knowledge is the center to gain a Second Language (L2) like English and also to establish communicative competence. Furthermore, he demonstrates some techniques that could

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be effective in the vocabulary teaching process such as using pictures and illustrations to connect students' past knowledge with a completely new story. The author argues that illustrations or photographs are a great way to decipher the meaning of unfamiliar words. (Aghlara & Tamjid, 2011) in their study found out that using digital games to teach a L2 to children increased motivation to learn English, engaged them in the different games and reduced the stress within the classroom.

As educational online games have some benefits on the vocabulary learning process, they also have some limitations (Klimova & Kacet, 2017), in their investigation found that the high interactivity of the students can prevent vocabulary learning. They also identified lack of preparation of teachers to use some different educational games. A study by (Wang & Tahir, 2020), showed that time is another limitation since some educational online games are long and there is not enough time for teachers to explain the instructions to complete the game by students.

Dehaan (2010) attempted to demonstrate the effect of applying video games in two groups, one group of students had to play and the other group had to watch the video games. After they played and watched, they were evaluated through a vocabulary recall test. The results obtained were that players and viewers remembered in-game vocabulary; however, players recalled significantly less vocabulary than viewers; the players perceived the game and its language as much more complex than observers. In addition, players reported that they had difficulties paying attention to the game and the vocabulary simultaneously. Hence, the researcher mentioned that it is important to combine teaching with interactive material for learning a foreign language.

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METHOD

This research used a quantitative approach for data collection and analysis. The quantitative method analyzes numerical data by using statistical methods (Apuke, 2017). This study was carried out to find out the impact of using online games in comparison to traditional methods to learn English vocabulary. A vocabulary recall test was applied as the written retrieval work is instantaneous (Feng et al. 2021). The participants of this study were 13 eighth grade students from the Mercedes Vázquez Correa school which is located in Gualaceo in the Azuay province. The participants were selected through a convenience sample.

For applying this study, first I asked for permission to the authorities of the institution and the students' legal representatives as they are minors. I explained parents and/or representatives what my research was about, the aim of my investigation, the advantages of applying this investigation and the methodologies to be used. Moreover, I gave students' parents a consent document that had to be signed. This process was done in an in-person meeting

Data collection instruments

Vocabulary retention test

A vocabulary retention test was used after each online game and traditional class, where students had to write down all the words, they remembered in their L1 and in the L2.

Survey

A survey with 5 questions related to online games and traditional methods used in class was prepared with the purpose of analyzing student's perceptions. The survey included two questions that required students to elaborate on their answers.

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Procedure

The study was performed in 3 weeks. The first week learners were asked to play an online ESL game plus (adjectives and antonyms) wherein they had to drag and paste the letters in order to form the synonym of the adjective they found in each sentence. After learners finished playing this game, they had to write down as many words as they could remember from the online game on an online application named Padlet. During the second week, students were taught the same topic, adjectives (synonyms and antonyms), through flash or drawing cards in class. After the lesson, they were asked to write down as many words as they could remember on a worksheet.

In the third week, in order to know students' perceptions on the use of online games versus the traditional method, they were required to complete the survey. It is important to mention that 11 participants completed the survey since two students reported problems with their internet connection on the selected day.

DATA ANALYSIS

The data obtained through the vocabulary retention tests was organized in spread sheets and later analyzed using Microsoft Excel. The results obtained are shown through frequency tables and graphs.

RESULTS

After analyzing the data, it was possible to identify that eighth-grade students learned more vocabulary through traditional teaching methods; however, students wrote more correct words in English after using online games compared to traditional teaching methods. Thusly, demonstrating that there is greater accuracy in English vocabulary learning with the use of online games.

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Table 1.
Results of Vocabulary Retention Test

Student	Online Games			Traditional Method		
	# words	Correct	Percent	# words	Correct	Percent
13	6,69	5,23	82,9%	7,77	6,08	77,8%

Source: Field research.

According to Table 1, in terms of memory retention, students recall an average of 6.69 words in English with the application of online games while with flashcards they remembered 7.77 words in English. Furthermore, the correct spelling of the words students remembered was also evaluated, resulting in that 82.9% of the words were spelled correctly with the use of online games, as opposed to the traditional method, which presents 77.8%. Therefore, it is evident that the use of online games allows students not only to retain the vocabulary, but to recall it in a more accurate way.

Table 2.
Individual Results of Vocabulary Retention Test of Students.

Student	Online Game		Traditional method	
	Spanish	English	Spanish	English
S01	0	6	5	8
S02	12	11	14	14
S03	4	4	7	7
S04	0	5	6	5
S05	0	5	3	5
S06	0	5	5	8
S07	0	10	11	8

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S08	0	2	3	4
S09	2	2	3	2
S10	0	13	11	12
S11	7	7	8	8
S12	12	10	11	12
S13	6	7	7	7

Source: Field research.

In Table 2, the results of the application of the vocabulary retention test are presented individually. In this way, it is possible to visualize the retention of English and Spanish vocabulary in the students after the application of the online games and the traditional method. Additionally, it could be seen that Spanish words were hardly recorded after the use of online games, in comparison to the amount of vocabulary remembered in the English language.

In regard to the second instrument, the results of the survey that was applied to 11 students to know their perception about online games and traditional methods for English vocabulary learning are presented in this section.

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Question 1. Does playing online make you happy?

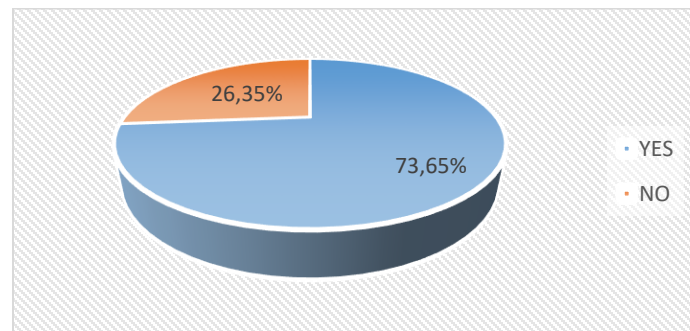


Figure 1. Graphic representation of the answers to question 1.
Source: Field research.

From the 11 students surveyed, 73.65% which corresponds to 8 students responded that they were happy to play online, while 26.35% that is 3 students answered that playing online did not make them happy.

Question 2. Do you like and play on the internet? Why?

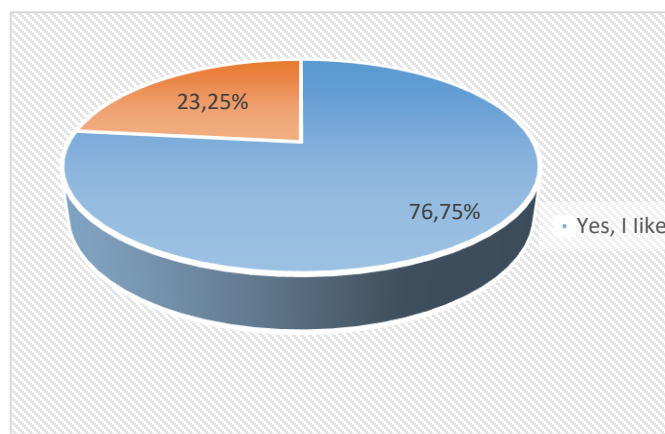


Figure 2. Graphic representation of the answers to question 2.
Source: Field research.

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The 76.75% of the participants indicated they liked to play and learned on the internet. It is necessary to consider that for eighth grade students the use of online media and technological tools represents the development of daily activities in their personal and interpersonal context. Thus, these tools could be adapted for a context of English teaching - learning; consequently, it constitutes an opportunity for the implementation of an adequate process in growth of the wealth of knowledge for local and national education. Question 3. Is it easier to learn English vocabulary through internet games than using drawings in class?

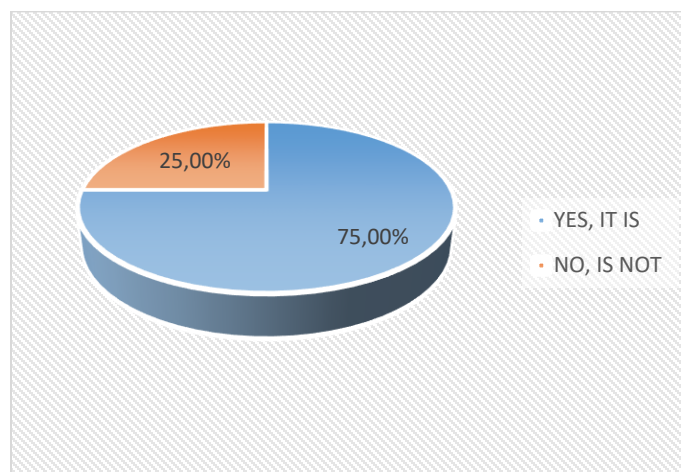


Figure 3. Graphic representation of the answers to question 3.

Source: Field research.

The 75.00% of students indicated that it is easier for them to learn English vocabulary through online games than using drawings or flashcards. Therefore, students should be exposed to an innovative education in the English teaching process, where English is used in continuous digital elements that are related to the training processes and daily life for students.

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Question 4. Do you prefer to learn vocabulary through internet games than through drawings in class?

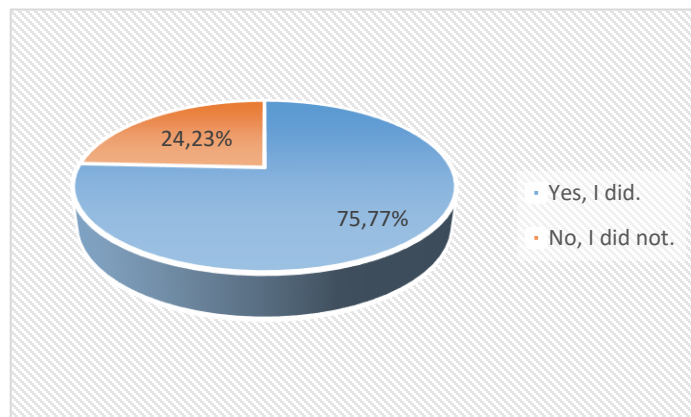


Figure 4. Graphic representation of the answers to question 4.
Source: Field research

In the same context of the previous question, 75.77% of the participants answered that they prefer to learn vocabulary through games on the Internet than through drawings or flashcards in class.

Question 5. Did you write more correct words in English when you received the class with online games than with printed drawings in the classroom?

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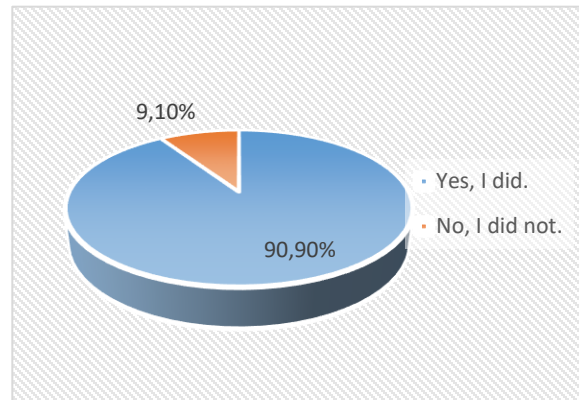


Figure 5. Graphic representation of the answers to question 5.
Source: Field research.

The 90.90% of the students responded that they had written more correct words in English when they received the class with online games, in contrast to the class that implemented printed drawings to promote English vocabulary learning. For this reason, new methodologies of educational interaction could be reviewed to foster the interest of learning English in students and motivate them to learn more vocabulary in a language of importance and global significance.

DISCUSSION

The analysis is based on the results of the vocabulary retention test and the examination of the perceptions of eighth grade students regarding the use of online educational games and traditional methods to learn English vocabulary. Consequently, the 13 students who participated in the study presented better levels of acceptance and practice for learning English through online educational games, considering that they use technology in all areas of life, and education could not be the exception. Furthermore, the results of this research are similar with the study of (Aghlara & Tamjid, 2011) who found that using online

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games as a tool to teach vocabulary, helps students to increase their motivation to learn a L2.

In addition, in this study it was found that the students remembered more words with the use of flash cards, but they did not know how to write them correctly as they did when using of the online games. The results of this research agree with those presented in the study by (Alqahtani, 2015) where it is mentioned that using pictures for teaching vocabulary is the one of the best techniques for decoding unknow words. Besides, it was observed that memory retention of the vocabulary of the students was lower when they played online games than when using flashcards; however, the spelling of the English words was higher than the other method (Dehaan, 2010) in his study demonstrated that players recalled less vocabulary than the viewers. In summary, it is seen that students do not pay attention to the games and to the number of words that appeared on the screen when they play.

CONCLUSIONS

This research fulfilled its purpose, which was to explore the impact of the use of online educational games in comparison with traditional classroom methods to teach English vocabulary to eighth grade students. The theory of connectionism, takes importance in this study since it allows directing digital resources to strengthen the desired communicative skills (Lightbown & Spada, 2013).

It was possible to identify through the instruments applied, that there was a higher percentage of vocabulary retention with the use of traditional methods. However, it is important to note that the amount of vocabulary retention was not linked to correct writing as there were more correct words recalled with online games. As a result, through this study it could be inferred that online games allow students to retain more correct words. It is important to mention that the proper conduction of online games allows the students to learn in a much more interactive way in class and not get bored easily in class (Aghlara & Tamjid, 2011).

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The perception of the students about the use of online educational games and traditional methods for teaching English vocabulary is that they learned more words with the use of online games. Additionally, they are still accustomed to the use of traditional methods, so they consider it is the most appropriate in their learning.

Traditional methods can be a good and useful resource for teaching vocabulary, as online games can be. Even so, it is important that teachers know how to create spaces for students to interact with online games that allow them to increase their communication skills. These spaces must be controlled so that students fulfill the purposes of the classes without being distracted.

It is necessary to acknowledge that the study had limitations. First, the limited number of participants do not allow the generalization of the results. Virtual classes were also a limitation at times as some participants did not have good internet connectivity for the execution of the online game and retention test. Hence, it is recommended for future investigations to study in greater depth the use of gamification, controlling these external factors, in order to develop the communicative skills in students.

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REFERENCES CONSULTED

- Aghlara, L., & Tamjid, N. H. (2011). The effect of digital games on Iranian children's vocabulary retention in foreign language acquisition. *Procedia - Social and Behavioral Sciences*, 29, 552–560. <https://doi.org/10.1016/J.SBSPRO.2011.11.275>
- Alamr, A. S. (2019). Digital Games and English as Foreign Language (EFL) Learning in Tertiary in Saudi Arabia. University of Wollongong. <https://ro.uow.edu.au/theses1/631>
- Alqahtani, M. (2015). The importance of vocabulary in language learning and how to be taught. *International Journal of Teaching and Education*, 3(3), 21–34. <https://doi.org/10.52950/TE.2015.3.3.002>
- Andi, K., & Arafah, B. (2017). Using Needs Analysis To Develop English Teaching Materials in Initial Speaking Skills for Indonesian College Students of English. *The Turkish Online Journal of Design, Art and Communication TOJDAC*, 419–437. doi: [10.7456/1070ASE/045](https://doi.org/10.7456/1070ASE/045)
- Andreani, W., & Ying, Y. (2019). “PowPow” interactive game in supporting English vocabulary learning for elementary students. *Procedia Computer Science*, 157, 473–478. <https://doi.org/10.1016/J.PROCS.2019.09.005>
- Apuke, O. D. (2017). Quantitative Research Methods: A Synopsis Approach. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 33(5471), 1–8. <https://doi.org/10.12816/0040336>
- Azman, H., & Farhana Dollsaid, N. (2018). Applying Massively Multiplayer Online Games (MMOGs) in EFL Teaching. *SSRN Electronic Journal*, 9(4). <https://doi.org/10.2139/SSRN.3308243>
- Caballero de la Torre, V., & Robles Rodríguez, F. J. (2005). Conexionismo: una útil herramienta para otras ciencias y un problemático modelo para la psicología. *Revista de Filosofía*, 3(77–91).
- Cummings, A. G., Piper, R. E., & Pittman, R. T. (2018). The Importance of Teaching Vocabulary: The Whys and Hows. *Journal for Literacy Educators*, 4(6), 343–354. doi: <https://doi.org/10.2/JQUERY.MIN.JS>

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- Dehaan, J. (2010). The effect of interactivity with a music video game on Second Language Vocabulary Recall. *Language Learning & Technology*, 14(2), 74–94.
- Feng, G., Ou, J., Gan, Z., Jia, X., Meng, D., Wang, S., & Wong, P. (2021). Neural fingerprints underlying individual language learning profiles. *JNeurosci The Journal of Neuroscience*, 41(35), 7372–7387.
- Gozcu, E., & Caganaga, C. (2016). The importance of using games in EFL classrooms. *Cypriot Journal of Educational Sciences*, 11(3), 126–135. doi: <https://doi.org/10.18844/cjes.v11i3.625>
- Hong, J. S., Han, D. H., Kim, Y. I., Bae, S. J., Kim, S. M., & Renshaw, P. (2017). English language education on-line game and brain connectivity. *ReCALL*, 29(1), 3–21. doi: <https://doi.org/10.1017/S0958344016000173>
- Jannah, I. M., Kuswari, N., Muna, I., & Nabilla, K. (2020). Exploring the Effects of Using Game on Students' Vocabulary Mastery: A Case Study in Instructional Material and Media Development Class. *International Conference on English Language Teaching*, 184–190. doi: <https://doi.org/10.2991/ASSEHR.K.200427.037>
- Klimova, B., & Kacet, J. (2017). Efficacy of Computer Games on Language Learning. *Turkish Online Journal of Educational Technology - TOJET*, 16(4), 19–26.
- Lightbown, P., & Spada, N. (2013). *How Languages are Learned* (Fourth edi). Oxford.
- Prensky, M. (2001). Digital Natives, Digital Immigrants. *On the Horizon*, 9(5), 1–6. <https://bit.ly/3JJj67F>
- Seli, S. (2015). Teaching English through Online Games for Junior High School Students. *PREMISE JOURNAL*, 4(1), 2080-3345. doi: <https://doi.org/10.24127/PJ.V4I1.281>
- Septian, T. D. (2019). *Students' perceptions on online game practices and their vocabulary attainment in English related to online game*. Universitas Negeri Semarang. <http://lib.unnes.ac.id/40092/>
- Sevilla-Vallejo, S. (2021). Teaching and learning in the 21st Century towards a Convergence between Technology and Pedagogy. *Adaya Press*. Retrieved from www.adayapress.com/author-guidelines/

Katy Jackeline Pintado-Peñaloza; Tammy Fajardo-Dack

- Shabaneh, Y., & Farrah, M. (2019). The effect of games on vocabulary retention. *Indonesian Journal of Learning and Instruction*, 2(01), 79–90. doi: <https://doi.org/10.25134/IJLI.V2I01.1687>
- Shadiev, R., Wu, T. T., & Huang, Y. M. (2020). Using image-to-text recognition technology to facilitate vocabulary acquisition in authentic contexts. *ReCALL*, 32(2), 195–212. doi: <https://doi.org/10.1017/S0958344020000038>
- Vasileiadou, I., & Makrina, Z. (2017). Using Online Computer Games in the ELT Classroom: A Case Study. *English Language Teaching*, 10(12), 134–150. doi: <https://doi.org/10.5539/elt.v10n12p134>
- Wang, A. I., & Tahir, R. (2020). The effect of using Kahoot! for learning – A literature review. *Computers & Education*, 149. doi: <https://doi.org/10.1016/J.COMPEDU.2020.103818>
- Wiggins, B. E. (2016). An overview and study on the use of games, simulations, and gamification in higher education. *International Journal of Game-Based Learning*, 6(1), 18–29. doi: <https://doi.org/10.4018/IJGBL.2016010102>
- Zhang, Y., Song, H., Liu, X., Tang, D., Chen, Y. E., & Zhang, X. (2017). Language learning enhanced by massive multiple online Role-Playing games (MMORPGs) and the underlying behavioral and neural mechanisms. *Frontiers in Human Neuroscience*, 11, 95. <https://doi.org/10.3389/FNHUM.2017.00095/BIBTEX>