

Online games and vocabulary acquisition: *Does it correlate?*

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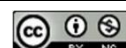
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Abstract

In recent times, it has become common to encounter children and students exhibiting strong English proficiency. One potential factor behind this trend is the extensive exposure the students have to online games. Online game has been a popular form of entertainment as many people view online game as an interesting way to fill their free time and some perceive it as form of socialisation and communication with others. Playing online game is an activity that has become prominent in children and adolescents' spare time which contributes to a phenomenon where they incidentally learn English language. The aim of this research was to explore the relationship between online games and the acquisition of English vocabulary. A total of 221 respondents from a public university participated in a questionnaire that encompassed various questions, including a brief essay on the topic at hand. The essays were analysed using VocabProfiler in VocabKitchen which is based on CEFR level to determine the level of vocabulary used by the respondents. The findings demonstrated a significant influence of online games on vocabulary acquisition. Consequently, it can be asserted that online games offer a beneficial and motivating platform for students to enhance their second language skills, particularly in the realm of vocabulary improvement.

Keywords: *vocabulary acquisition, vocabulary, online games*



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INTRODUCTION

Proficiency in vocabulary plays a crucial role in achieving competence and expertise in a second language during the learning process. It represents a foundational skill that English as a Second Language (ESL) students must excel in, as a diverse range of words is essential for comprehending spoken and written communication. It can be challenging for educators to assess a student's language proficiency solely based on their gaming experiences, therefore, much of the previous research focused on students' perception. In addition, series of pre- and post-tests were conducted to see the correlation between online gaming and vocabulary acquisition.

This research is conducted to study the correlation between online gaming and vocabulary acquisition. Even though online games are not created or played for the specific purpose of language learning, several research found positive correlation between online gaming and language learning, while some research found the opposite (Ani et al., 2023; Achol & Akter, 2022; Pintado-Peñaloza & Fajardo-Dack, 2022; Majeed et al., 2023). Another study showed that students' vocabulary acquisition between students who are addicted to playing games those who are not addicted were similar (Alfitri et al., 2021).

Issues of online games in learning English: Mobile games have attracted 2.4 million Malaysians to play, drawing in esports enthusiasts and positioning Malaysia as one of the rapidly expanding countries in the field of

esports (Aziz & Ariffin, 2018). 73 percent of Malaysian respondents who were aged between 16 and 24 years old stated that they play online games. It was also found that most Malaysian online gamers play games daily (Hirschmann, 2020). In a study among Malaysian undergraduate students, only the students' capability in time management were negatively affected by Massively Multiplayer Online Games (MMOGs), while their social life and emotion were not affected (Latif et al., 2017). According to Ani et al. (2023), online gaming poses negative effect on students' academic performance. However, playing online games also motivates students to learn, improves their languages, and helps them in making fast decisions (Ani et al., 2023).

The effect of online gaming on second language learning is complex. A study was conducted on children aged 8 to 14 in Dhaka city who are not yet proficient in the English language but are active gamers. The researchers surveyed and observed these children, also gathering opinions from some of their guardians. The analysis of this data revealed that online gaming has had a noticeable positive impact on the speaking skills of these children. It also contributed to some extent to improvements in their listening and reading abilities with relatively little effort (Achol & Akter, 2022). Some online games may not provide adequate exposure to the target language, especially if they are mainly designed for entertainment. Online games also lack the structured curriculum and guidance typically found in language classes. Without proper guidance, students may struggle to progress systematically in their language learning.

Gamers often use a specific set of jargons and terminologies that may not be applicable or transferable to other contexts, especially real-life context. This can lead to a narrow and specialized vocabulary limited to gaming community rather than general language proficiency.

Definition of acquisition and proficiency of vocabulary: Murcia (2001) emphasizes that vocabulary plays a pivotal role in the process of acquiring language, regardless of whether it is one's first, second, or a foreign language. Meanwhile, Hatch and Brown (1995) provided a definition of vocabulary as a collection or group of specific words that an individual speaker might employ. Vocabulary acquisition occurs when a learner knows the spoken and written forms of a word, its grammatical patterns, collocations, function, and meaning (Nation, 1990). Acquiring vocabulary requires learners to sequence the phonological properties of the language which includes the categorical units, syllable structure, and phonotactic sequences (Ellis, 1997). In second language learning, Wu (2012) defines vocabulary acquisition as the process of learning in a second language after the acquisition of the first language.

Building upon these conceptual definitions, previous studies have reported mixed findings regarding the contribution of online games to vocabulary acquisition, indicating the need for further empirical investigation.

The use of traditional methods of teaching vocabularies may include rote memorisation (Derakhshan & Khatir, 2005), or paired translation (Nejati et al., 2018) which are not the most engaging methods as they require memorization and are usually teacher centered. On the other hand, acquiring vocabulary through online games is more motivating. According to Ashrafa et al. (2014), vocabulary acquisition is possible through online gaming because online games provide motivating context. As players play games, they willingly communicate, read, and try to comprehend new words because they are "willing to be the winner". The study found that students who play online games performed better in a post-test (Ashrafa et al., 2014).

Majeed et al. (2023) suggests that using online games to boost students' motivation in learning English vocabulary has produced significant positive outcomes. This approach helps students in their language learning efforts and fosters a greater sense of involvement, enjoyment, and calmness while they are learning. Additionally, online games have created opportunities for students to interact and engage with native speakers, confirming their effectiveness as a valuable educational resource. Therefore, it is reasonable to argue that online games should no longer be viewed exclusively as a hindrance to academic advancement but as an alternative platform for students to enhance their knowledge acquisition (Majeed et al., 2023). A study by Tram et al. (2023) presents students' perception on online games and its effectiveness in vocabulary learning. The survey results revealed that a majority of English language majors at HUFU have a positive attitude towards the use of online games as a tool for vocabulary learning and they deemed online games as beneficial in learning vocabulary.

A study indicates that individuals who engaged in video gaming achieved higher scores on Vocabulary Levels Test, demonstrating greater proficiency in understanding vocabulary. Moreover, those who played video games moderately to frequently performed better on the test compared to those who played infrequently. Additionally, the results suggest that video games that focus on cooperation and communication are more effective for improving vocabulary skills (Cabraja, 2016).

In a study by Pintado-Peñaloza and Fajardo-Dack (2022), it was found that eighth-grade students acquired a greater vocabulary through conventional teaching methods. Nonetheless, when it came to writing English words correctly, students demonstrated a higher level of accuracy after utilising online games as opposed to traditional teaching methods. This suggests that online games are more effective in enhancing the precision of English vocabulary learning.

Achol and Akter (2022) found that majority of the newly acquired words among children gamers were relatively complex, primarily verbs or action words and nouns. These newly acquired vocabularies assisted them in their speaking and reading activities, although they had minimal to almost no impact on their writing skills (Achol & Akter, 2022). Even though there is improvement in vocabulary acquisition, it only helps with speaking and reading activities. Therefore, further studies are needed to investigate the correlation between online games and vocabulary acquisition and the effect online games have on vocabulary acquisition.

Research Objectives:

Based on the literature presented above, previous studies have reported mixed findings regarding the role of online games in vocabulary acquisition. Therefore, this study was conducted to further examine the relationship between online gaming and English vocabulary acquisition among ESL learners through the following research objectives:

1. Is there a correlation between online games and vocabulary proficiency among ESL learners?
2. Do ESL learners who play online games have more vocabulary than those who do not play games?

LITERATURE REVIEW

English has been ubiquitously used as medium of communication. More than a hundred million people speak English language which comprises 75% of non-native speaker of the language (Dance, 2022). This gives the status of English language as lingua franca with the remarkable expansion of English language widely integrated into almost all elements in life including digital communication. As claimed by Marlina and Xu (2018), the global spread of English, its prevalent use in varied international economic and cultural fields, and the extraordinary expansion of electronic communication have permitted the language to achieve the status of an international language or a global lingua franca. English language, which is used as one of the second languages, exists in almost all areas of human life. An area that frequently uses English is the media realm, which includes animated films, music and games that use online media (Prihandini, Sudana & Kurniawan, 2021).

Over the years, we have witnessed continuous growth in the variety of digital communication platforms. Various aspects of our lives have transitioned into the digital realm, encompassing work, education, social interactions, and even entertainment like online games. This technological shift is not limited to the gaming sector; it is also making inroads into diverse industries such as tourism, healthcare, and education (Liu, Chen, Liu, & Chen, 2020). A study by Reis-Anderson (2023) mentioned that the utilization of digital content is experiencing a remarkable surge as digital technologies are advancing rapidly within society, contributing to challenges and opportunities in people's daily lives. The evolution of digital communication has a significant impact on the transformation of online gaming. The gaming industry is in a state of constant expansion, driven by emerging technologies like cloud gaming, the rise of e-sports, and the increasing popularity of live streaming platforms like Twitch and YouTube (Sanjaya, Chandra & Jose, 2023). As the digital world continues to increase, online gaming is experiencing a spurt in popularity, prompting researchers to do more detailed research on the issue.

A study done by Ghanbaran and Ketabi (2014) shows that online games can assist the students in boosting motivation and enabling more profound language comprehension. Siregar and Tantawi Zauhari (2021) did a study on the impact of gaming towards English communicative competencies and found out that students' interest on the game itself has contributed to incidental communication between the players and simultaneously promoted English communicative competence.

Throughout the years, the number of digital communication platforms continues to expand. Many facets of life are now shifted to digital formats, such as work, school, and human interactions as well as online games. This technology is being implemented in gaming and in other industries such as tourism, healthcare, and education (Liu, Chen, Liu, & Chen, 2020). Consequently, the quantity of digital content utilization is skyrocketing. Digital technologies grow fast in society, producing challenges and chances in people's lives (Reis-Anderson, 2023). The development of digital communication has had its effect on the evolving of online games. The gaming industry is continuously growing, with the rise of new technologies such as cloud gaming, the rise of e-sports, and the rising popularity of live streaming platforms such as Twitch and YouTube (Sanjaya, Chandra & Jose, 2023). Due to the fact that digital world is intensifying, online games are undergoing an expansion in popularity, triggering researchers to explore more on the issue.

Online gaming promotes accidental learning of vocabulary. When the gamers play online games, they need to interact with other gamers in mutual language to produce reciprocal understanding. Hsu, Wen, and Wu (2009) describe online game experience as an experience spawned by the communication between individuals and online game features which facilitate language learning. Thus, these gamers are exposed to the usage of English language. Playing digital games is one of the potential ways for ESL learners to enrich their English language vocabulary parenthetically (Sundqvist, 2011). Vasquez and Ovalle (2019) indicate that gaming is like an extensive foreign language classroom outside the normal classroom.

METHODOLOGY

Participants: The participants of this study were the second-semester students at a local public university in Perak. These students were taking English classes as a part of the requirement for the semester. The selection of the students was done using cluster sampling method as the researchers intentionally select students according to their registered English class from three faculties. By using this sampling method, 211 second-semester students from three different faculties i.e. Faculty of Accountancy, Faculty Of Applied Sciences, and College Of Computing, Informatics and Media were selected.

Instrument and procedure: The questionnaire of this study was designed to address the research question of this study, as well as to provide feedback on the use of online games, a medium of English language learning. Hence, to obtain data and information for these mixed-method studies, the questionnaire was designed to have multiple-choice questions, short-answer questions and one short-essay question. Using Google Form, the respondents of this study were asked to complete six multiple-choice and short-answer items on the respondents' background, four multiple-choice items on language, four multiple-choice items on gaming. There was also one short answer item and one short-essay item on gaming in the questionnaire.

The Google Form link to the questionnaires were distributed by the lecturers via emails and WhatsApp groups. After the designated classes were identified by the researchers, the lecturers were contacted and informed about the study. These lecturers were then provided with links to be distributed to the students. Respondents were reminded to answer the long-answer item unaided to assure the genuineness of their response.

The students were given three days to complete the questionnaire. After the given period, data were harvested from the google sheet generated from the google form. The numerical data were then transferred to SPSS version 26 to be analyzed. Meanwhile, responses to short answer questions were analyzed using VocabKitchen.

Using Vocab Kitchen, the CEFR level of vocabulary used in the answers was determined. VocabKitchen is developed by Jeremy Garner (2010) and the main function of the application is to analyze the texts based on Common European Framework of Reference for Languages (CEFR) and categorize them according to a six-point scale, from A1 for beginners, up to C2 for those who have mastered a language.

Then, using SPSS, the students' background information was analyzed using descriptive analyses. Next, the researchers used Spearman correlation analysis to analyze the correlation between students' time spent on online games and their marks for CEFR level vocabulary (which were obtained from VocabKitchen as described in the previous paragraph). Spearman correlation test was selected for this study as the students' time spent on online games was recorded in ordinal data, and the marks for CEFR level vocabulary were recorded in intervals.

FINDINGS

The analysis of this study has revealed that all 221 respondents of this study aged between 18 to 21. 39.4% of the respondents were from the Faculty of Accountancy, 35.7% were from Faculty of Applied Sciences and the remaining 24.9% were from College of Computing, Informatics and Media. The majority (76.5%) of the respondent were females, and there were only 23.5% male respondents. In terms of the first language used at home, the majority (98.2%) of the respondents use Malay as their first language, and only 1.8% use English as their first language.

The participants of this study were also asked on the medium that exposes them to English language. 41% of the respondents reported that they are exposed to English language by listening to songs. 37.1% claimed that movies help to expose them to English language, and 18.6 chose reading materials as the medium that expose them to English language. 3% of the respondents answered 'Others'. Among the answers detailed under 'Others' included K-pop content, games and social media.

Of the 221 respondents, 74.2% considered themselves as gamers. However, only 57.5% of the respondents reported that they played online games, and the remaining 42.5% did not play online games. When asked how long they spend playing online games, majority (56.5%) claimed that they only spent 0 to 2 hours per day playing online games. 32.8% of the respondents spent 2 to 4 hours per day, 10.7% spent 4 to 6 hours per day, and only 2.1% spent more than 6 hours per day for online gaming.

Next, each respondent was asked to list three games that they spent most of their time on. There are numerous answers, but the three most popular answers are Mobile Legends, PUBG and Valorant. When the respondents were asked what language, they used to communicate when playing online games, 67.6 reported that they used English, 24.3% used Malay, and 8.1% used others, which includes a mix of both languages, and some of them used Mandarin. When the respondents were asked whether online games help to improve their vocabulary in English, 84.6% of them agreed that online games can improve their vocabulary in English, and 15.4% did not agree.

Next, Spearman correlation tests were conducted to find the correlation between hours spent on online gaming and students' vocabulary level based on CEFR. The results were summarized and illustrated in Table 4.1. This table summarizes Spearman's correlation between students' hours spent on online games and their vocabulary level based on CEFR. The value of correlation between hours spent on online gaming, and CEFR Vocabulary level for A1, A2, B1, B2, C1, and C2 were $\rho = -0.043$ ($p = 0.523$), $\rho = 0.009$ ($p = 0.898$), $\rho = 0.35$ ($p = 0.611$), $\rho = -0.063$ ($p = 0.357$), $\rho = -0.015$ ($p = 0.828$) and $\rho = 0.010$ ($p = 0.828$) respectively. The result showed no significant correlation between the duration of time spent on online gaming and the students' CEFR vocabulary level. In this study, the same trend could be observed for all CEFR levels which are A1, A2, B1, B2, C1 and C2.

Table 4.1: Summary Of Correlations Between Hours Spent on Online Gaming And Students' Vocabulary Level

			A1	A2	B1	B2	C1	C2
Spearman's rho	How many hours per day do you play online games:	Correlation Coefficient	-.043	.009	.035	-.063	-.015	.010
		Sig. (2-tailed)	.523	.898	.611	.357	.828	.882
		N	219	219	219	219	219	219

DISCUSSION

The findings of this study indicate that there was no significant correlation between the amount of time spent playing online games and English vocabulary proficiency among the ESL learners. Although more than half of the respondents reported playing online games and 84.6% believed that online games helped improve their English vocabulary, the Spearman correlation analysis demonstrated that the duration of online gaming was not associated with vocabulary levels across all CEFR categories. This finding suggests that the amount of time spent gaming alone is not sufficiently predicted of vocabulary acquisition. Instead, vocabulary development appears to be influenced by multiple language exposure experiences rather than a single learning activity.

The present findings partially support previous studies that questioned the direct contribution of online gaming to vocabulary development. While studies by Alfitri et al. (2021) also reported little difference in vocabulary acquisition between gamers and non-gamers, other researchers such as Ashrafa et al. (2014), Majeed et al. (2023), and Cabraja (2016) found positive effects of online games on vocabulary learning. These contrasting findings may be explained by differences in research design, participant characteristics, game genres, learning contexts, and the measurement of vocabulary proficiency. Simply spending more time playing games does not necessarily guarantee meaningful language exposure. Instead, the quality of interaction, communication with other players, and the linguistic demands of particular games may play a more important role in facilitating vocabulary acquisition.

Another important finding emerging from this study is that learners acquire English vocabulary from various sources beyond online games. Listening to songs and watching movies were reported by many respondents as their primary sources of English language exposure. These findings reinforce the notion that vocabulary acquisition is a multidimensional process that develops through diverse authentic language experiences. Nevertheless, this study has several limitations. Vocabulary proficiency was measured using a short essay analyzed through VocabKitchen, which may not fully represent learners' actual vocabulary knowledge. Future studies may employ standardized vocabulary tests together with controlled observations of gaming behaviors to provide a more comprehensive understanding of how online gaming contributes to second language vocabulary development.

CONCLUSION

This study concludes that there is no significant correlation between the duration of online gaming and English vocabulary proficiency among the participating ESL learners. Although many respondents perceived online games as helpful for learning English, vocabulary acquisition appears to be influenced by multiple forms of language exposure rather than the amount of time spent playing games. Therefore, online games should be regarded as one of many potential learning environments rather than the sole determinant of vocabulary development.

The findings contribute to the growing discussion on informal digital learning by suggesting that future research should move beyond measuring gaming duration and instead examine the characteristics of gameplay that facilitate language learning, such as communication patterns, game genres, interaction quality, and authentic language use. Such investigations would provide a more comprehensive understanding of the educational potential of online games in supporting second language vocabulary acquisition.

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