

An Analysis of the Effect of the Video Games on Speaking Proficiency and Communication Skills in Saudi Arabia: A Systematic Review

Ahmed Khawaji

King Abdulaziz University, Jeddah-Saudi Arabia
E-mail: akhawaji@kau.edu.sa

KEYWORDS Communication Skills. English Language Students. English Language Proficiency. Language Learning Anxiety. Video Games

ABSTRACT Currently, playing video games is a vital aspect of many young people's daily life, as it facilitates the informal development of their linguistic repertoire. Certain theories, such as Bloom's Psychomotor and emotional domains, and visual and kinesthetic learning styles that emphasise seeing and doing, can be connected to the use of videos and video gaming. This study is conducted to determine whether video game intervention might reduce language learning anxiety, and improve proficiency level in the target language (English), especially communication (speaking) skills. A systematic review of 22 related papers was done to study the impact of video gaming on English language proficiency, especially on communication skills. These results imply that video game intervention has the ability to reduce language learning anxiety or hesitation among Saudi EFL students, and improve their English language classroom communication abilities. Moreover, video game treatments and interventions can potentially improve teacher-student interactions.

INTRODUCTION

Today's world is dominated by high-definition 3-D technologies. Nevertheless, no technological feature has gained as much popularity as video games. Video games foster an environment that is primarily learner-centred and provide ample opportunity for socialisation. It, when well-organised, stimulates the drive and desire to win inside individuals (Uzun 2009). Technology and video games have long been used to teach and learn English, but the COVID-19 pandemic turned users to routine this facility more exclusively because of limited outdoor activities. Thus, the popularity of video gaming increased during the lockdown because of COVID-19. People were destined to spend time inside the houses so they were in need to utilise their time while learning and entertaining in a good way. During the time students valued video games and relied on the internet for amusement and studies, both. The continuously growing popularity of the effect of digital games has also reinforced the pedagogues and educationalists to revisit the pedagogic roles and effect of online gaming on language learning in general. Thus, video games can be used for enjoyment and learning. In the Indonesian context, Seli and Santosa (2022) verified the contribution of appropriate video games in EFL learning.

King Abdulaziz University, Jeddah-Saudi Arabia
E-mail: akhawaji@kau.edu.sa

Once again, in the similar context, Ningtyas and Suganda (2020) supported that video games considerably improve vocabularies and reading skills. In addition, Amin and Wahyudin (2022) proved that Indonesian students' reading comprehension was improved through utilising the game titled "Age of Empires 2". Besides, the study carried out by Hashim et al. (2019) explored the impact of integration of student friendly video games into the English classroom may enhance students' writing skills and yield better outcomes. Alrajhi (2020) found that there is a natural effect of video games on EFL learning. In the context of EFL learning in Iran, Shokri and Abdolmanafi-rokni (2014) have already explored the pedagogic effect of impact of interesting video games.

Video games offer improvement in communication abilities, and impact positively on language learning evident by many studies. Therefore, this tendency to use video games for even entertainment purposes is directly or indirectly leads to language acquisition.

Institutions have begun to utilise technology to build and provide access to an artificially generated natural language learning environment in which ESL/EFL learners can access the learning atmosphere where they easily practise for effective learning achievements (Krashen et al. 2016). In addition, it was observed by Anderson et al. (2008) that using video games in educational settings has increased because they facilitate a highly engaged learning environment along with greater level of motivation.

In this connection, Granic et al. (2014) noted that in the United States, nearly all adolescents (about 97%) have been found playing different video games on a regular basis. Recent researches (as some of them summed up in the systematic review of this study) published in the US clearly present the scenario that 45 percent more time was utilized by the gamers in playing the video games during the lockdown phase of COVID-19 pandemic than they spent in the past (Statista 2020). Balhara et al. (2020) also found a considerable rise in gaming rates during lockdown phases. However, it may not be obvious that the improved outcomes were the consequence of gaming. Hence, gaming was demonstrated to be a stress reliever.

Picton and Clark (2020) propose that engaging in video games facilitates the development of stronger interaction and communication. During social isolation the gaming time increased many times as compared to earlier, among all individuals in the world and so is the case with Saudi Arabians. Due to social isolation, the amount of time Saudi Arabian gamers spend gaming grew by 50 percent (Al-Khudair 2021). Because of the unavailability of natural learning contexts among Saudi English learners, video gaming remained a wonderful opportunity to experience such an atmosphere.

There are number of studies, which support the usefulness of online gaming in the process of English language learning (Da Silva 2014; Theodorsen 2015; Elyas and Al-Jifri 2017; Peake and Reynolds 2020; Liu et al. 2021; Albaqami 2022; Vnucko and Klimova 2023). In the past few decades, the impact of internet gaming on foreign language acquisition has been studied intensively and widely researched. Surprisingly, online gaming, especially Massively Multiplayer Online Role Playing Games (MMORPGs), has certain unfavourable results, such as video game addiction (Petry and O'Brien 2013) or gaming as a hobby or pastime. On the other hand, Sublette and Mullan (2012) have stated long ago that MMORPGs can provide players with learning advantages. If use of anything is in proper direction, the utilisation yields desired outcomes, but if it is not appropriately utilised, a use may be a misuse or an abuse of technology. The same is the case of video games utilisation for entertainment as well as learning a language. It also helps the gamers to enhance their level of language comprehension

in the target language (Cordova and Lepper 1996). Later, similar ideas were put forth by González-González and Blanco-Izquierdo (2012). In addition, it provides direct exposure to a captivating social context, additional amusement, familiarity with new lexical items, and various opportunities to practise the target language. Role playing is made possible through the use of text chats and vocal interaction tactics in MMORPGs, which provide gamers with access to computer-generated domains centred on a specific theme. Gamers can communicate with other gamers from all around the world, including a wide variety of mother tongue speakers in specific languages from different nations (Peterson 2012). Thus, playing video games not only helps players to interact with many of the native language users but also a natural, interesting and cooperative environment to deal and learn through fun ways.

There is increasing evidence that playing MMORPGs with friends online and having them provide narratives or instructions in the target language may help players become more fluent in that language (Godwin-Jones 2014). There are many other games such as FIFA that are wonderful for language learning, grammar and pronunciation. Game of Thrones, Grand Theft Auto, Oblivion (an open action interactive role-playing fantasy game), Call of Duty, Star Wars, Elder Scrolls, Lord of the Rings and The Witcher are also well constructed fiction games with rich dialogue and perfect for learning words and expressions. Total War: Three Kingdoms is a multi-award-winning game based on the Chinese-theme. It combines historical and mythical elements with breathtaking graphics and storyline interaction. But the concept that video games promote language learning needs to be clear, that is, playing games will not teach gamers a new language! However, learning a foreign language through playing video games is fun, enjoyable, therefore does not feel like learning.

Since the COVID-19 epidemic, many researchers have examined the effects of the lockdown, with most focusing on the cost it imposes on young boys and children's mental condition. Recent evidence reveals that the majority of children and young people reported to have been isolated from the main social and educational activities during the pandemic (COVID-19). Due to

these reasons, they faced stresses of various types. Quite a lot of studies have revealed that video games can motivate learners to a great extent. Vahlo et al. (2022) especially for those who are categorically known as visual learners.

As stated by Jones et al. (2014), video gaming is associated with improved psychological health while Collins and Cox (2014) mentioned about a close connection between the two: video gaming and stress coping. Wouters et al. (2009) reviewed 28 studies on the topic of video game use and concluded that good and serious games are certainly useful in the learning process. Another landmark study, this one by Fang and Zhao (2010), indicated that gamers experienced less anxiety while dealing with problems involving their personalities after playing video games. On the other hand, Ferguson and Rueda (2010) studied a link between watching violent video games and a change in watchers' behaviour (becoming aggressive), and contrarily concluded that the games actually have a calming effect on players by reducing their levels of sadness and hostility.

Few research has examined the effects of isolation on children's language development during the COVID-19 lockdown, and those that have focused primarily on first language acquisition. No research has been found in Saudi Arabia on the topic of foreign language acquisition through video games, at least not that the author is aware of that video games could exert many fruitful effects to create suitable learning purposes in educational environments. An adventure genre video game 'Call of Duty' was focused on in the present study, to know if such a game could really be of some use for Saudi EFL learners in the development of communication skills as the instructor/researcher motivated them to play the game for only some time to enhance English. It was personally observed by the researcher that the gamers showed improvement in learning and retaining vocabulary and speaking skills.

Related Research on the Effects of Online Games on Language Acquisition

Any innovation can be logically criticised, as it has both positive and negative sides. Similarly, it has been continuously argued and debated if video games can help in learning a language, as initially felt by Haugland and Wright (1997) and

Cordes and Miller (2000). New findings indicate that playing video games can help to learn a new language, but it is important for students, especially younger ones, to establish a healthy balance between screen time and exercise (Turgut and Irigin 2008; AlShaiji 2017; Canadian Paediatric Society, Digital Health Task Force, Ottawa, Ontario 2019; Pandya and Lodha 2021).

In general, playing video games is a useful deviation from reality, especially during tough times like the lockdowns that followed the COVID-19 outbreak. When compared to other types of video games, MMORPGs like WOW by Blizzard Entertainment (2007) were found to be very attractive for children, teenagers and adults (Albaqami 2022). It features areas where players can interact with characters and complete tasks and missions. As they play, players build a plot from what other characters say, how they react to them, and what they do as a result. Zhao and Lai (2009) also asserted the effectiveness of MMORPGs.

MMORPGs allows gamers to learn and develop the target language in a naturalistic environment, according to Gass and Selinker (2001). Picton and Clark (2020) felt that many good video games have better language quality than even used in some classrooms, because they provide interactive environments due to quality recording and editing. Such interactive story games enable players to make decisions and choices without burden, independently.

In addition, the findings of Klimova and Kacet (2017) show that video games, particularly informative ones, are effective for learning foreign language jargon. In addition, the implementation of video games in regular classrooms has additional benefits including sufficient language exploration. It also strengthens student cooperation.

From a socio-historical perspective, the role of video games is also very important in promoting foreign language development that resembles Vygotsky's Zone of Proximal Development (ZPD) (Peterson 2012). ZPD is defined by Vygotsky (1978) as the difference between a person's current developmental stage and their anticipated developmental stage (p. 86). Cruz et al. (2015) assert that gamers may be motivated by games due to virtual features, which are rarely available in formal classroom settings.

Thus, gaming is viewed as a problem-solving, systematic, competitive, and rewarding pas-

time. For this rationale, gaming can be classified as an online educational pursuit strongly associated with the field of education. The definition of virtual learning is the learning that incorporates technology, including non-physical online and offline answers (Henritius et al. 2019).

Research Objectives

This research formulated following objectives:

1. To identify the roles of video games (especially 'Call of Duty') in the development of communication skills (especially speaking) among Saudi EFL learners during and post COVID-19.
2. To analyse the positive effect of video games on English language proficiency (communication/speaking skills) of Saudi EFL learners during and post COVID-19.

Importance of the 'Call of Duty'

Call of Duty is also a video game franchise developed and presented by Activision. Beginning in 2003, the company first concentrated on games set during World War II. Call of Duty: Modern Warfare II, the latest game, was released on October 28, 2022. It is a first-person shooter game in which gamers from all over the world team up and compete in several virtual game scenarios. It is the most popular game of all time. It provides a scenario for online socialising. It reduces the anxiety associated with speaking a foreign language, and there is no peer pressure or judgement, so they speak freely while playing in English. They do not focus on the speaking pattern but only on the game scenario, which leads them to be confident in sharing their ideas freely and hence in speaking. Participants feel motivated while playing the game and the motivation to game helps the players to overcome their language barrier while interacting with other players.

Call of Duty is a video game, which was tried out by the researcher for the present study. Its importance cannot simply be neglected because a lot of students are using it.

Since old times, language has helped humans connect and link with each other through communication. When it comes to effective communication, language is always the most important factor to work with. It always ranks first in terms

of well-organised communication, regardless of terrestrial inequalities. With the development of human civilisation, various dialects and languages arose to facilitate communication amongst individuals. English has risen to prominence among the various languages of diverse cultures. Due to its elaborate grammatical restrictions, which made it difficult for many to acquire the language, it was disregarded for a long time. The classroom method for learning language needs much attention and focus along with serious interest in learning a language. The classroom method is not always effective for those who wish to learn a language with minimal effort.

People normally seek out a solution to learning English, whether through books, films, or grammar classes. Real-time gaming is a medium that has been overlooked by many individuals. Thus, gaming is the gateway to bring individuals together for a common cause. It also enables the exchange of ideas and other information regarding games easily. Sometimes it is a delightful alternative for interaction with individuals of various cultural and ethnic origins so is the case with 'Call of Duty'.

Anguera et al. (2013) emphasised on the use of video gaming to enhance cognition. Lobo (2020) in his master's dissertation cited Gazzaley who asserts that enjoying first-person shooter games such as 'Call of Duty' has an advantage on high language comprehension skills such as the capacity to concentrate for long-term periods of time and multitask. It not only introduces players to computer technology and the online world but also makes learning fun through the interaction with colours, the animation, challenges, and the prizes of winning. It helps to be a creative, positive communicator between family and friends. It also helps in upsurge responsiveness, and helps mental wellbeing, irrespective of age and gender. Now is the time to learn English with Call of Duty, PUBG, and other games, which provide both fun and a burst of adrenaline! The best aspect of language learning through gaming is that one does not need to enroll in an English language course. Simply pop on the gaming headphones, and ready to play.

The Call of Duty video game series, available for PC and gaming consoles, is the finest way to begin English learning. It supports both LAN and multiplayer, allowing you to connect with other

players across the world. One can participate in several campaigns, including futuristic situations ranging from outer space to the cold war. It is a goal-oriented shooting game that helps players improve both their visual keenness and their English. Call of Duty is unquestionably a winner. In conclusion, there is a substantial amount of research supporting the claim that gaming benefits students in general and foreign languages students in particular. As a result of their ability to boost motivation, provide a safe and contextualised learning space, and facilitate increased socialisation, video games can be an effective tool for lowering students' levels of stress and anxiety. Video games can reduce stress levels, and increase communicative ability, hence it is a fact that experimental studies are needed to further validate. However, this work addresses this gap in the literature by investigating the influence of Call of Duty, a video game, on the language proficiency of Saudi EFL students.

Statement of the Problem

In light of the earlier findings, the present study is intended to contribute to the body of research by filling in gaps of research especially on the relevance of the game 'Call of Duty' along with other popular games. It has been the researcher's personal curiosity to utilise Call of Duty for learning English. He has been recommending various video games for the enhancement of communication skills, especially speaking. Call of Duty has been one of the preferred video games suggested by him for his students. Around 9 months after the lockdown caused by the COVID-19 epidemic, the researcher found one of his students began to speak better English. He gave the impression of being more assured and less hesitant when speaking or inquiring how to say something in English and seemed to have improved their communication skills. This raises the question of whether or not other parents have had similar experiences with their children. Perceived stress is conceptualised here as 'tension', which includes negative emotions like fear, concern, or distress during stressful situations (Lehne and Koelsch 2015), which might occur during linguistic discourse especially during speaking as a part of communication skills that are conceived here as including verbal, audible, and responses elements (Burton 1990). The verbal component entails the production of intended-to-be-understood

utterances. The auditory component refers to the transmission of information from one individual to another via spoken or acoustic means. Finally, the response determines whether or not the message was received and understood by the intended recipient.

METHODOLOGY

Research Questions

The present study intended to answer following questions:

1. How can video games (especially 'Call of Duty') develop communication skills (especially speaking) among Saudi EFL learners during and post COVID-19?
2. What is the effect of video games on English language proficiency (communication/speaking skills) during and post COVID-19?

Data Source and Search

To collect the required data, the author made a Google search typing the title of the paper. Many titles appeared. The author went through the abstract of each of the researches, and summarised only those which were directly or indirectly related to the present study. No study related to 'Call of Duty' was found in the given context. In other words, articles included were containing a combination of selected keywords within their abstract, title, or keywords.

1. Peer-reviewed journal articles in English language, only in the English language.
2. Entries of only those journals that were published within 5 years (except some very important ones).
3. Only full text available/open-access.
4. Experimental and systematic reviews.
5. All other types were ignored.

For the systematic review details, see Appendix (Table 1)

RESULTS

Major Findings

Altogether 22 studies were found useful and thus thoroughly studied for systematic review. The studies followed different experimental/review methods as per the need. Digital games have

many advantages. One of the benefits of the videogames is the creation of an engaging, interactive learning environment (Patra et al. 2022; Costuchen et al. 2022). Vocabulary learning via digital games may be found more interesting and easier for the students (Abdullah 2020), which will help them to use in communication skills. Rahman and Angraeni (2020), however has shared crucial idea that the digital game used in the teaching/learning process must be wisely selected, and appropriately integrated for the users for better outcomes. Following are important findings.

Importance of Video Games

The review (see Table 1) revealed that video games are quite significant in language pedagogy (English, in the present context). These yield favourable impact effect on the learners because of positive stimulation and reinforcement by creating an authentic environment. Therefore, video induced learning can improve the vocabulary and pronunciation of gamers. It has been found that videogames create interesting and authentic learning atmosphere. In addition, online video games can increase level of communication based on intercultural communication skills. In particular, video games based classrooms are positively linked to language education and English language learning in particular. Video gaming theorises many fruitful outcomes especially 'self-learning'.

VideoGames and Learner Style

It has been found that video gaming is a very popular activity as surveys explored a number of insights related to the relationship between playing games, reading, writing and overall learning of a language. Many studies have earlier supported that visuals contribute learning especially for visual learners.

Video Games and Learning Environment

Another interesting finding is that EFL students' vocabulary repertoire can benefit from integrating a game-mediated curriculum. Games based learning eases the process of learning, and students think they are not learning in a restricted environment. Hence, the outcomes are beneficial for development of knowledge as well as skills.

The results also show that most young learners (children and teenagers) spend time in gaming, listening to music on mobiles or similar tools, and watching video games on TV. Gaming in any form with written or oral or both the inputs are significantly related to learning of the target vocabulary of English language in which the games are watched.

Video Games and Vocabulary Learning

The video games contributed to the learning of new vocabulary (in English language) without the impression given to the learners that they are learning through unintended drilling process. If game are interesting, they may create positive attitudes toward learning languages. and if participants find the games interesting they will show a positive attitude towards learning via mobile applications.

Video Gaming During COVID-19

Watching motivating games are always beneficial for humans to feel relaxed and learn in relaxing mode. Therefore, balanced and effective approaches to gaming during the COVID-19 pandemic are required to support the people who were tortured due to pandemic phobia. In that case, one of the aims of video gaming was to support physical and psychological health of people. It was found that "the minority who has used gaming as an unhealthy coping mechanism (where there is an over-dependence on gaming as a means of escapism from reality) may suffer from mental health issues" (Albaqami 2022 : 300). He continuous that about half (50.8%) of the participants reported that their gaming behaviour had increased, whereas 14.6 percent reported a decrease. due to examination related stress are associated with gaming behaviour during the lockdown period. However, it is not the case in the post Covid era.

Research Questions and Results

The research questions this study aimed to answer are as follows.

RQ 1: How can video games (especially 'Call of Duty') develop communication skills (especially speaking) among Saudi EFL learners during and post COVID-19?

The 'Call of Duty' (as a video game) promotes establishing an informal online setting for multi-

player video games that may provide safer and better opportunities for speakers of the target language (English). Thus, they practise their communication skills in a much reduced amount of anxiety of general linguistic type.

RQ 2: What is the effect of video games on English language proficiency (communication/speaking skills) during and post COVID-19?

Video games in general and 'Call of Duty' in particular offers many opportunities to practise many theoretical assumptions including the 'trial and error' nature of the video game, which offers the gamer a chance to self-assess the outcomes of the failures for not accomplishing a fixed target. In addition to many other opportunities, 'Call of Duty' is quite a good platform for learning by doing.

DISCUSSION

The results of this study suggest that playing video games in general and the 'Call of Duty' video game specifically helped EFL students enhance their language proficiency. It was found that the right utilization of useful video games can significantly affect learners' motivation in developing communication skills. A lot of studies have been conducted on the topic of edu-gaming, and the results confirm that video gamers are benefitted in several ways in the process of language acquisition.

The current study confirms the outcomes of most of the studies conducted in the recent past, approving that gaming can be a useful and productive means of learning English, especially communication skills through mastering active vocabulary and listening. It has been noticed that video gaming in the classroom or outside created a comfortable learning environment where students felt themselves at ease in listening, watching and grasping without a burden.

Video games are not used to facilitate students learning English, but initially to motivate them to learn the target skill and language. This study's findings suggest that playing video games such as Call of Duty can help Saudi EFL students relax and improve their ability to communicate (via speech, listening, and giving and receiving feedback). This is consistent with the general findings of this line of study, which have found that playing the Call of Duty video game is extremely

helpful for acquiring a new language. What's more, this study provides support for the idea that gaming can be used as a tool to strengthen student-teacher relationships, an argument that might be tested in contexts outside just language classes. The video game also create an interactive and motivating environment in which students can easily and subconsciously share their knowledge, as well as because of the requirements and obligations they encounter while playing. Students engage in competition and cooperation in a fun environment. On the one hand, the fact that students became more engaged in playing and more motivated to attain higher results suggests that games can be an effective technique for vocabulary acquisition and retention. The current findings confirm that educational games are effective for language development because the learners through such games can also attempt to learn new words and terminologies in addition to the class-specific vocabulary. The faster they learn the new word, the better they cope with the game's rules and regulations. Future studies should also investigate the effects of video games across genres (for example, strategic, sports-related). It would be fascinating to see more studies conducted that examine affective factors like cultural and linguistic identity, self-concept, self-efficacy, and language barriers in addition to stress and anxiety.

The study especially focused on two issues, that is, how can video games positively impact EFL learners' communication or speaking skills, and what is the effect of video games on English language learners' communication or their speaking skills. Video games are expected to enhance the learners' attitudes towards learning English in general and communication/speaking skills in particular (Toufik 2022; Saleh and Althaqafi 2022; Ostovar-Namaghi et al. 2023).

English as a language is a means of communication, and as a communication tool, it develops speaking skill. Motivation is a key issue in pursuing knowledge related activity. In order to motivate the target learners, video games can play important roles. Thus, it is quite essential to maximise the interaction between learners and video games for improving English learning process and outcomes. Video games positively affect EFL learners' attitudes towards learning. Learners are found to be more motivated towards engaging

themselves in game-based learning processes for better learning opportunities. Many studies have explored that EFL learners develop positive attitudes towards and utilisation of game-based approaches for English language learning in general and vocabulary in particular as supported by Yang et al. (2020). Video games have been accepted as a great influencing factor that exert positive and fruitful learning outcomes. The findings are in line with Slobodan et al. (2021) and Ostovar-Namaghi et al. (2023) who also contended that video games are effective in yielding better outcomes. A playful and game based affordances of video games creates a great opportunity of learning EFL, which probably lead to immersive pedagogy. Frederick et al. (2022) also found somewhat similar findings. In comparison to routine and traditional classroom learning, video game based learning approaches can doubly enhance the possibility of learning EFL in an easy environment.

CONCLUSION

The study mainly emphasises on the effect of integrating video games in the English language learning process. The study revealed a very strong connection between video games and EFL learners' communication and speaking skills. The integration of relevant videos initially enhances vocabulary and later skills. The learning outcomes are increased by creating an immersive learning environment, which reinforces learners' motivation to learn communication skills especially speaking. The pedagogues and instructors are supposed to select appropriate videos to facilitate language learning process to optimum level. One can integrate videos in the classes and assign some videos as assignments to be watched at home to write summaries and answer some questions.

This study revealed the importance and roles of video gaming in the area of English language learning in Saudi Arabia. Utilisation of video games as a strategy in the class or even at homes, can be extremely effective. The analysis of the systematic review reveals that teachers must design video games or choose the right video games to be utilised for development of language learning, especially communication skills.

IMPLICATIONS

The ESL/EFL teachers should choose good video games for language learning purposes. They

can record some videos to facilitate video games too to make using the videos and the learning process easier and more interesting. The language planners should emphasise the need of blending video games in ESL/EFL classes. Textbook writers can design video games if possible for providing resources (textual and visual together) to enhance the possibility of learning.

REFERENCES

- Abdullah A 2020. EFL learners' experience of a MALL-based vocabulary learning tool. *Indones J Appl Linguist*, 10: 283-291.
- Albaqami R 2022. The role of playing video games in mastering English as a foreign language among children in Saudi Arabia during the COVID-19 lockdown. *Open Journal of Modern Linguistics*, 12: 238-264. <https://doi.org/10.4236/ojml.2022.122019>
- Al Jemely YA 2022. Impact of Online Video Games on the Acquisition of the English Language. *Journal of Positive School Psychology*, 6(4): 11253-11263. From <<http://journalppw.com> 2022> (Retrieved on 13 January 2023).
- Al-Khudair D 2021. Saudi Gaming Sector Sees Boost from Users Stuck at Home during Pandemic. Arab News. From <<http://www.arabnews.com/node/1805471/business-economy>> (Retrieved on 20 June 2022).
- Alrajhi AS 2020. EFL Learners' Beliefs Concerning the Effects of Accumulative Gaming Experiences on the Development of Their Linguistic Competence. *Electronic Journal of Foreign Language Teaching*, 17(2): 367-380. From <<http://e-flt.nus.edu.sg/>> (Retrieved on 30 August 2021).
- Amin KP, Griffiths MD, Dsouza DD 2020. Online gaming during the COVID-19 pandemic in India: Strategies for work-life balance. *International Journal of Mental Health and Addiction*, 20: 296-302. <https://doi.org/10.1007/s11469-020-00358-1>
- Ampry, A, Komariah Hassan K, Ali T, Zafarani, F 2022. Investigating the effect of using game-based learning on EFL learners' motivation and anxiety. *Hindawi, Education Research, Int'l*, 2022. <https://doi.org/10.1155/2022/6503139>
- Andreani W, Ying Y 2019. "PowPow", an interactive game in supporting English vocabulary learning for elementary students. *Procedia Comput Sci*, 157: 473-478.
- Anguera JA, Boccanfuso J, Rintoul JL, Al-Hashimi O et al. 2013. Video game training enhances cognitive control in older adults. *Nature*, 501(7465): 97-101. doi:10.1038/nature12486
- AlShaiji OA 2017. Video Games Promote Saudi Kids English Vocabulary Retention. *Asia Pacific Journal of Contemporary Education and Communication Technology (APJCECT)*, 3(1). From <www.apiar.org.au> (Retrieved on 5 February 2022).
- Amin F, Wahyudin AY 2022. The Impact of Video Game: "Age of Empires II" Toward Students' Reading Comprehension on Narrative Text. *Journal of English Language Teaching and Learning*, 3(1): 74-80. From <<http://jim.teknokrat.ac.id/index.php/english-languageteaching/article/view/1818>> (Retrieved on 11 November 2022).

- Anderson BT, Ruane AC, Roads JO, Kanamitsu M, Salvucci G 2008. A new metric for estimating local moisture cycling and its influence upon seasonal precipitation rates. *Journal of Hydrometeorology*, 9: 576-588. <https://doi.org/10.1175/2007JHM968.1>
- Baierschmidt J 2012. Learning English through video gaming. *askUIS*, 23: 1-26.
- Balhora YPS, Kattula D, Singh S, Chukkali S, Bhargava R 2020. Impact of lockdown following COVID-19 on the gaming behavior of college students. *Indian Journal of Public Health*, 64(Supplement): S172-S176. https://doi.org/10.4103/ijph.IJPH_465_20
- Burton G 1990. *Exercises in Management Manual*. Houghton Mifflin Harcourt. Sumas, WA, USA: Houghton Mifflin College Division.
- Canadian Paediatric Society, Digital Health Task Force, Ottawa, Ontario 2019. Digital media: Promoting healthy screen use in school-aged children and adolescents. *Paediatrics & Child Health*, 24(6): 402-417. <https://doi.org/10.1093/pch/pxz095>
- Collins E, Cox AL 2014. Switch on to games: Can digital games aid post-work recovery? *International Journal of Human-Computer Studies*, 72(8-9): 654-662.
- Cordes C, Miller E (Eds.) 2000. *Fool's Gold: A Critical Look at Computers in Childhood*. Maryland, USA: Alliance for Childhood.
- Cordova DI, Lepper MR 1996. Intrinsic motivation and the process of learning: Beneficial effects of contextualization, personalization, and choice. *Journal of Educational Psychology*, 88: 715-730. <https://doi.org/10.1037/0022-0663.88.4.715>
- Costuchen AL, Vaya RPM, Dimitrova DD 2022. Roman Palace: A video game for foreign language vocabulary retention. *Int J Emerg Technol Learn*, 17: 87-102.
- Cruz C, Hanus MD, Fox J 2015. The need to achieve: Players' perceptions and uses of extrinsic meta-game reward systems for video game consoles. *Computers in Human Behavior*, 71: 516-524. <https://doi.org/10.1016/j.chb.2015.08.017>
- Da Silva RL 2014. Video Games as Opportunity for Informal English Language Learning: Theoretical Considerations. *The ESPecialist*, 35(2): 155-169. From <http://revistas.pucsp.br/index.php/esp/article/viewFile/21465/15692> (Retrieved on 10 November 2022).
- Fang X, Zhao F 2010. Personality and enjoyment of computer game play. *Computers in Industry*, 61(4): 342-349.
- Ferguson CJ, Rueda SM 2010. The Hitman study: Violent video game exposure effects on aggressive behaviour, hostile feelings, and depression. *European Psychologist*, 15(2): 99-108. DOI: 10.1027/1016-9040/a000010
- Fouzia, B 2022. Playing online video games as a learning strategy to enhance EFL learners' speaking skill. *Milev Journal of 1 /Jain Research and Studies*, 391-402
- Frederick P, Jody CM, Siyu J 2022. Exploring the Affordances and Effectiveness of a Digital Game in the Chinese Dual Language Immersion Classroom. *Journal of Technology and Chinese Language Teaching*, 13(1): 46-73. From <http://www.tclt.us/journal/2022v13n1/pooleclarkeji.pdf> (Retrieved on 19 September 2022).
- Gass SM, Selinker L 2001. *Second Language Acquisition: An Introductory Course*. 2nd Edition. New York, USA: Lawrence Erlbaum Associates.
- Gee JP 2012. *Situated Language and Learning: A Critique of Traditional Schooling*. London: Routledge.
- Godwin-Jones R 2014. Games in Language Learning: Opportunities and Challenges. *Language Learning & Technology*, 18(2): 9-19. From <http://llt.msu.edu/issues/june2014/emerging.pdf> (Retrieved on 13 July 2022).
- González-González C, Blanco-Izquierdo F 2012. Designing social video games for educational uses. *Computers and Education*, 58: 250-262. <https://doi.org/10.1016/j.compedu.2011.08.014>
- Granic I, Lobel A, Engels R 2014. The benefits of playing video games. *The American Psychologist*, 69: 66-78. <https://doi.org/10.1037/a0034857>
- Haapsaari M 2020. Video Games and Language Learning: A Match Made In Heaven? The Effects of Video Games in Learning English in a Finnish Context. Bachelor's Thesis. Finland: University of Jyväskylä. From <https://jyx.jyu.fi/bitstream/handle/123456789/73528/1/URN%3ANBN%3Afi%3Aaju-202101041009.pdf> (Retrieved on 5 January 2023)
- Hashim H, Rafiq KRM, Yunus MM 2019. Improving ESL learners' grammar with gamified-learning. *Arab World English Journal*, 5: 41-50. doi: <https://dx.doi.org/10.24093/awej/call5.4>
- Haugland S, Wright J 1997. *Young Children and Technology, a World of Discovery*. New York: Allyn and Bacon.
- Henritius E, Löfström E, Hannula MS 2019. University students' emotions in virtual learning: A review of empirical research in the 21st century. *Br J Educ Technol*, 50: 80-100. doi: 10.1111/bjet.12699
- Jensen Signe Hannibal 2017. Gaming as an English language learning resource among young children in Denmark. *CALICO Journal*, 34(1): 1-19.
- Jones CM, Scholes L, Johnson D, Katsikitis M, Carras MC 2014. Gaming well: Links between videogames and flourishing mental health. *Frontiers in Psychology*, 5: Article 260. <https://doi.org/10.3389/fpsyg.2014.00260>
- King DL, Delfabbro PH, Billieux J, Potenza MN 2020. Problematic online gaming and the COVID-19 pandemic. *Journal of Behavioral Addictions*, 9(2): 184-186. <https://doi.org/10.1556/2006.2020.00016>
- Klimova B, Kacet J 2017. Efficacy of computer games on language learning. *TOJET: The Turkish Online Journal of Educational Technology*, 16(4): 19-26.
- Krashen S, Wang FY, Lee SY 2016. Epoch making in English language teaching and learning. In: YN Leung (Ed.): *Twenty-Fifth International Symposium on English Teaching*. Republic of China: English Teachers' Association, pp. 255-263.
- Lehne M, Koelsch S 2015. Toward a general psychological model of tension and suspense. *Frontiers in Psychology*, 6: 79.
- Liu Y, Gong R, Yu Y, Xu C, Yu X et al. 2021. Longitudinal predictors for incidence of internet gaming disorder among adolescents: The roles of time spent on gaming and depressive symptoms. *Journal of Adolescence*, 92: 1-9. <https://doi.org/10.1016/j.adolescence.2021.06.008>
- Lobo PA 2020. *A Study on the Impact of Video Games on Youth*. Published Dissertation. Kandivli (East), Mumbai, India: Thakur College of Science and Commerce.
- Ningtyas A, Suganda S 2020. Video Games as Motivators of English Vocabulary Acquisition and Reading. *Proceedings of the International University Symposium on Humanities and Arts (INUSHARTS 2019)*, Faculty of Humanities, Universitas Indonesia. Atlantis Press. <https://doi.org/10.2991/assehr.k.200729.005>
- Ostovar-Namaghi SA, Morady Moghaddam M, Rad E 2023. The effect of interactive games on English language learners' reading comprehension and attitudes. *Asia Pacific Educ Rev*. <https://doi.org/10.1007/s12564-023-09883-9>

- Pandya A, Lodha P 2021. Social connectedness, excessive screen time during COVID-19 and mental health: A review of current evidence. *Front Hum Dyn*, 3: 684137. doi: 10.3389/fhumd.2021.684137
- Patra I, Shanmugam N, Ismail SM, Mandal G 2022. An investigation of EFL learners' vocabulary retention and recall in a technology-based instructional environment: Focusing on digital games. *Educ Res Int*, 2022: Article ID 7435477. <https://doi.org/10.1155/2022/7435477>
- Peake J, Reynolds A 2020. There's a sniper on that hill!: Gaming in English as a Global Language Environment. *Angles*, 11. <http://journals.openedition.org/angles/3237>. DOI: <https://doi.org/10.4000/angles.3237>
- Peterson M 2012. Learner interaction in a Massively Multiplayer Online Role-Playing Game (MMORPG): A sociocultural discourse analysis. *ReCALL*, 24: 361-380. <https://doi.org/10.1017/S0958344012000195>
- Petry NM, O'Brien CP 2013. Internet gaming disorder and the DSM-5. *Addiction*, 108: 1186-1187. <https://doi.org/10.1111/add.12162>
- Picton I, Clark C 2020. *Children and Young People's Video Game Playing and Literacy in 2021*. London, UK: Cambridge University Press and Assessment.
- Picton I, Clark CR, Judge TA 2020. Video Game Playing and Literacy: A Survey of Young People Aged 11 to 16. *A National Literacy Trust Research Report*. Semantic Scholar, Corpus ID: 225439141.
- Rahman AA, Angraeni A 2020. Empowering learners with role-playing game for vocabulary mastery. *Int J Learn Teach Educ Res*, 19: 60-73.
- Richtoff GPD 2022. Video Games' Effect on Language Learning Motivation. *English Studies and Education*, 2022: 1-2. From <<https://www.diva-portal.org/smash/get/diva2:1629040/FULLTEXT02>> (Retrieved on 13 April 2023).
- Rudis D, Poštiaš S 2018. Influence of video games on the acquisition of the English language. *Verbum*, 8(8): 112. DOI: 10.15388/Verb.2017.8.11354
- Saleh AM, Ahmed Althaqafi AS 2022. The effect of using educational games as a tool in teaching English vocabulary to Arab young children: A quasi-experimental study in a kindergarten school in Saudi Arabia. *SAGE Open*, 12(1). <https://doi.org/10.1177/21582440221079806>
- Seli FY, Santosa I 2022. The role of video games in learning English. *IJLECR*, 8(2): 56-67. DOI: <https://doi.org/10.21009/ijlecr.v8i2.32013>
- Shahriarpour N, Kafi Z 2014. On the effect of playing digital games on Iranian intermediate EFL learners' motivation toward learning English vocabularies. *Procedia-Social and Behavioural Sciences*, 98: 1738-1743. <http://dx.doi.org/10.1016/j.sbspro.2014.03.601>
- Shokri H, Abdolmanafi-rokni SJ 2014. The effect of educational computer games on recall and retention of spelling in Iranian EFL learners. *International Journal of Applied Linguistics & English Literature*, 3(6): 169-175. doi: 10.7575/aiac.ijalel.v3n6p.169.
- Slobodan A, Jarrah AM, Hasnain N, Slobodan S 2021. The impact of video games on students' educational outcomes. *Entertainment Computing*, 38: 100412. [10.1016/j.entcom.2021.100412](https://doi.org/10.1016/j.entcom.2021.100412).
- Statista 2020. Increase in Time Spent Playing Video Games during the Coronavirus (COVID-19) Pandemic Worldwide as of March 2020, by Country. From <<https://www.statista.com/statistics/1111587/video-game-time-spent-covid/>> (Retrieved on 29 October 2022).
- Sublette VA, Mullan B 2012. Consequences of play: A systematic review of the effects of online gaming. *International Journal of Mental Health and Addiction*, 10: 3-23. <https://doi.org/10.1007/s11469-010-9304-3>
- Toufik GM, Hanane S 2021. Investigating the potential of online video games in enhancing EFL learners' communication skills. *Universal Journal of Educational Research*, 9(2): 292-298. <http://www.hrpub.org> DOI: 10.13189/ujer.2021.090205
- Theodorsen JH 2015. L2 Acquisition from Video Games with Minimal Exposure. From <https://www.ntnu.edu/documents/1535402/35615794/Master_JHT_webpublish.PDF/45822bc7-1f36-41dd-ad0b-a803_b58454d0> (Retrieved on 17 November 2020).
- Turgut Y, Irgin P 2008. Young learners' language learning via computer games. *Procedia: Social and Behavioral Sciences*, 1: 760-740.
- Uzun L 2009. An evaluative checklist for computer games used for foreign language vocabulary learning and practice: Vocabword sample. *Novitas-Royal*, 3(1): 45-59.
- Vahlo J, Tuuri K, Väisälö T 2022. Exploring gameful motivation of autonomous learners. *Front Psychol*, 13: 825840. doi: 10.3389/fpsyg.2022.825840
- Vnucko G, Klimova B 2023. Exploring the potential of digital game-based vocabulary learning: A systematic review. *Systems*, 11: 57. <https://doi.org/10.3390/systems11020057>
- Vygotsky LS 1978. *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.
- Wouters P, Van der Spek ED, Van Oostendorp H 2009. Current practices in serious game research: A review from a learning outcomes perspective. In: Thomas Connolly, Mark Stansfield, Liz Boyle (Eds.): *Games-based Learning Advancements for Multi-Sensory Human Computer Interfaces: Techniques and Effective Practices*. Hershey, PA: IGI Global, pp. 232-250.
- Yang QF, Chang S, Hwang Zou G 2020. Balancing cognitive complexity and gaming level: Effects of a cognitive complexity-based competition game on EFL students' English vocabulary learning performance, anxiety and behaviors. *Computers & Education*, 148. <https://doi.org/10.1016/j.compedu.2020.103808>.
- Zhang S, Hasim Z 2023. Gamification in EFL/ESL instruction: A systematic review of empirical research. *Front Psychol*, 13: 1030790. doi: 10.3389/fpsyg.2022.1030790
- Zhao Y, Lai C 2009. MMORPGs and foreign language education. In: RE Ferdig (Ed.): *Handbook of Research on Effective Electronic Gaming in Education*. London, UK: Palgrave Macmillan. Information Science Reference, Vol. 1, pp. 402-421.

Paper received for publication in March, 2023
Paper accepted for publication in May, 2023

APPENDIX

Table 1: Systematic review details

(Paper titles and journals details can be accessed in the 'references')

<i>Researcher(s)</i>	<i>Journals details</i>	<i>Findings</i>
Zhang S, Hasim Z 2023.	<i>Front Psychol</i>	Many benefits of gamification were noticed including a quality improvement in learners' English language abilities and skills.
Albaqami 2022.	<i>Open Journal of Modern Linguistics</i> , 12	Video games create encouraging environment for learning the target language effectively.
Amin KP, Griffiths MD, Dsouza DD 2022.	<i>IJHA</i> , 20(1): 296-302	use of gaming may develop complete dependence leading to a mental health issue.
Balhara YPS, Kattula D, Singh S, Chukkali S, Bhargava R 2020.	<i>Indian Journal of Public Health</i> , 64	Nearly half of the participants have increased gaming behavior due to 'stress' in the lockdown while only 14.6 percent decreased the tendency.
King DL, Delfabbro PH, Billieux J, Potenza MN 2020.	<i>Journal of Behavioural Addictions</i> , 9(2)	It was found that there was a need of evolving appropriate approaches to gaming during the COVID-19 pandemic to support physical and psychological well being.
Picton I, Clark CR, Judge TA 2020.	<i>A National Literacy Trust Research Report</i> .	Findings from the survey revealed many fruitful connections between gaming, reading and even writing.
Shahriarpour N, Kafi Z 2014.	<i>Procedia-Social and Behavioural Sciences</i> , 98	Despite there is an evident proof that gaming can catch the attention of young learners, lack of high quality studies and empirical data makes it difficult to conclude as to which video games strategies provide the maximum benefit.
Jensen SH 2017.	<i>CALICO Journal</i> , 34(1): 1-19 (19 pages).	Most time was spent on gaming, listening to music and watching TV. The results show that gaming with both oral and written English input significantly link to vocabulary learning in general and, in particular for boys.
Baierschmidt J 2012.	<i>Speech Education Research</i> .	Video games based classrooms can yield a variety of learning outcomes.
Richtoff GPD 2022.	<i>English Studies and Education</i> , 2022-01-02	Playing video games (outside classes) can increase students' motivation to learn English in schools.
Haapsaari M 2020.	<i>Bachelor's Thesis. Finland: University of Jyväskylä</i>	Video games and motivation to learn English are well connected.
Ahmed Ampry A, Komariah Hassan K, Ali T, Zafarani F 2022.	<i>Hindawi, Education Research, Int'l</i> , 2022	Game-based learning had the potential of reducing EFL learners' anxiety to improve their English learning.
Rudis D, Poštic S 2018.	<i>Verbum</i> , 8(8): 112	Video games have a profound impact on language learning.
Fouzia B 2022.	<i>Milev Journal of 1 /Juin, 2022. Research and Studies</i> , 391-402	Learners do not play video games for learning purposes, but they agreed with their positive impact on increasing vocabulary acquisition, enhancing pronunciation, lowering anxiety, and raising motivation, which affects their speaking skill positively and unconsciously.
Toufik GH, Hanane S 2021.	<i>Universal Journal of Educational Research</i> , 9(2)	Online video games became beneficial for learning English as a foreign language. They help improve intercultural communication skills in educational settings. However, the list of conditions should be checked for learning and communication in online video games
Al Jemely YA 2022.	<i>Journal of Positive School Psychology</i>	The games are a wonderful source of positive and motivating atmosphere, and hence are the best way to adopt a nonnative language. Online video games can improve vocabulary, pronunciation, communication skills in English.

Table 1:Contd...

<i>Researcher(s)</i>	<i>Journals details</i>	<i>Findings</i>
Seli FY, Santosa I 2022.	<i>IJLECR</i> , 8(2): 56-67	The results of the questionnaire were only able to illuminate the roles of video games as a medium to be applied in the technique of learning English specifically in Indonesia. Thus, the researcher suggests that there is an opportunity to utilise the presented data to support future studies of larger scopes.
Vnucko G, Klimova B 2023.	<i>Systems</i> , 11: 57	The findings of this review can serve as a basis for further research, which could ultimately lead to the implementation of DGBVL in the process of English instruction, not only as a supplementary method, but possibly as a full alternative to conventional English lessons
Andreani W, Ying Y 2019.	<i>Procedia Comput Sci</i> , 157: 473-478	The game provides an interesting way of learning, and builds an engaging learning environment.
Peake J, Reynolds A 2020.	<i>Angles</i> , 11	The game helped participants to learn new vocabulary without the impression of being drilled. Gaming may create positive attitudes toward learning languages.
Patra I, Shanmugam N, Ismail SM, Mandal G 2022.	<i>Educ Res Int</i> , 2022	EG outperformed CG in vocabulary post-test. Learning via games offers more engagement than traditional learning methods. Games are a source of motivation. Games build confidence in students and allow a variety of contexts for the lexical items.
Abdullah A 2020.	<i>Indones J Appl Linguist</i> , 10: 283-291	Participants showed a positive attitude towards learning via a mobile application. Participants viewed the serious game as a tool that may develop vocabulary learning easier.