

***Using Mobile Games to Enhance English Vocabulary Knowledge:  
A Case Study of Thai Employees in an International Workplace***

Nichakan Horphet, Srinakharinwirot University, Thailand  
Supaporn Yimwilai, Srinakharinwirot University, Thailand

The Asian Conference on Education 2019  
Official Conference Proceedings

**Abstract**

Vocabulary knowledge is significantly vital for English language communication. However, research studies have reported that Thai employees have insufficient English words to use for speaking and writing. The issue is currently being problematic for employees in many international workplaces; they specialize in other skills rather than English, but require the skill of English to use in their workplace. This study was designed to investigate the effects of mobile games on Thai employees' vocabulary knowledge, as well as to investigate attitudes of Thai employees towards vocabulary acquisition through mobile games. The participants were 25 Thai employees in an international workplace. The research instruments employed in this study comprised of an English vocabulary test and a semi-structured interview. The quantitative data from both pretest and posttest were analyzed using mean scores, standard deviation, and *t*-test analyses. The qualitative data from the semi-structured interview was analyzed using content analysis. The results from the posttest and interview responses demonstrated that mobile games had positive potential in enhancing Thai employees' vocabulary knowledge. This suggested that they favored learning vocabulary through mobile games. The results of this study pointed out that mobile games can be good tools to engage players in learning the English language if the games are used properly.

Keywords: Vocabulary Knowledge, Mobile Games, Vocabulary Learning, International Workplace, Digital Games

**iafor**

The International Academic Forum

[www.iafor.org](http://www.iafor.org)

## **Introduction**

English dominates the world as the international language for communication. It has been reported that approximately 1.5 billion people speak English (Nordquist, 2019). This is related to the fact that individuals use English to communicate with people of different nationalities all around the world. Nishanthi (2018) pointed out that English is an essential language that connects people at the international level. Moreover, English has been the “main part in several sectors including medicine, engineering, and education” (Nishanthi, 2018, p. 871). Therefore, it is important to learn English in order to obtain advantages from people around the world.

In Thailand, people are more interested in learning English, especially those who work in international companies. This is because Thai employees have to utilize English to communicate with co-workers from different nationalities. Besides, Thai employees are seeking for career development. As Rose of York Language School (2016) stated that employees can also have a chance to be promoted if they have a good knowledge of English language skills. Ultimately, Thai employees want to work abroad. Hence, being competent in English can be beneficial for employees who prefer to work overseas (Rose of York Language School, 2016).

Unfortunately, the English proficiency of Thai employees is not at a satisfactory level. In general, they primarily specialize in occupational skills required in job descriptions. According to the EF English Proficiency Index (2018), the English proficiency of Thai people was ranked 64 out of 88 countries in the world which was far behind China and Japan. Thus, Thai employees should enhance their English communication skills to be competent in English.

To communicate in English, knowledge of vocabulary is essential. Without sufficient knowledge of vocabulary, English language learners cannot have an effective verbal communication (Min, 2013). For example, received messages with grammatical errors are comprehensible whereas received messages with inadequate vocabulary knowledge are incomprehensible (Wilkins, 1972, as cited in Caro & Mendinueta, 2017). For this reason, vocabulary knowledge is undoubtedly useful for language learning.

Although the knowledge of vocabulary is significantly useful in English language communication, the issue of how English language learners can learn English vocabulary effectively is being problematic. Witchaiyutpong (2011) found that Thai employees did not acquire sufficient English words to use for speaking and writing. The major problems which affect the progress of Thai employees' vocabulary knowledge stem from insufficient knowledge of vocabulary and English vocabulary retention (Saengpakdeejit, 2014). Therefore, Thai employees need a tool to support their English vocabulary learning.

Much research claimed that digital games can support vocabulary learning (Ashraf, Motlagh, & Salami, 2014; Mäki-Kuutti, 2014; Vidlund, 2012; Yip & Kwan 2006). First, digital games motivate players to learn vocabulary. Digital games have options to interact with a variety of fun and challenging tasks unlike watching movies and reading books (Ashraf et al., 2014; Lund, 2012). Beavis, Dezuanni, and O'Mara (2017) noticed that digital games comprise of unique tools and techniques which can

draw engagement from players. The tools and techniques are rooted in game mechanics such as competitive, narration, and quests. Digital games also encourage players to find the meaning of a word to continue playing games (Vidlund, 2012). Regarding game mechanics, players need to know English vocabulary to overcome difficult challenges they have to conquer in digital games. Second, digital games can help learners to memorize words. Digital games consist of pictures and texts. Players can memorize and learn vocabulary by visualizing repeated pictures and texts on the screen (Yip & Kwan, 2006). Third, players are allowed to communicate with others by using voice chat or text messages (Mäki-Kuutti, 2014; Vidlund, 2012). As a result, they can learn unfamiliar words from other players.

However, the use of digital games as tools to improve vocabulary learning is being a challenging task for educators. Currently, criticisms against gaming are still discussed everywhere. Research studies claimed that playing digital games can only result in less academic performance (Anad, 2007; Weis & Cerankosky, 2010). Moreover, playing digital games is time-consuming, which could distract children from doing other activities after school (Weis & Cerankosky, 2010). In the worst case, spending excessive time playing digital games tends to cause a high tendency in digital game addiction (Skoric, Teo, & Neo, 2013).

As discussed above, the use of digital games in enhancing vocabulary remains questionable. Because there are two sides of perspectives of using digital games in vocabulary learning as discussed above, this study aimed at examining whether digital games enhance vocabulary learning. It focused on investigating the effects of mobile games, digital games played on handheld devices, on vocabulary knowledge of employees working in an international company in Thailand.

The purposes of this study are:

1. To investigate the effects of mobile games on Thai employees' vocabulary knowledge, including the knowledge of form, meaning, and use of vocabulary appropriately.
2. To investigate the attitudes of Thai employees towards vocabulary learning through mobile games.

## **Literature Review**

### **Mobile Games**

It is useful to provide some background knowledge of digital games—an umbrella term used to cover mobile games.

The contemporary term has been defined by various authors in different ways. According to Clark et al. (2016), the digital game is “a set of challenging and/or novel experiences, scenarios, or decisions, structured by rules and/or goals, and mediated by a digital electronic device.” Alternatively, Karasavvidis (2018) defined the terms of a digital game as kind of games played on digital devices; “a game whose system is (partly or wholly) implemented in a digital device such as a game console, a personal computer, and a smartphone or tablet” (p. 3295). To simplify these definitions, digital

games are a kind of game played on electronic devices which comprise of stories or stimulations for players to achieve their goals.

Generally, digital games include several types. First, action games refer to physically challenging games, such as shooter games. Second, adventure games encompass exploration and puzzle-solving. Third, puzzle games include games that attract players with puzzles. Fourth, role-playing or long story games provide players with an immersive experience as a character in a particular situation. Fifth, simulation games are the type of games which mimics the real-world situation. Sixth, strategy games refer to problem-solving games (Grace, 2005).

With the advance of technology, digital game resources are increasingly developed for learning. The resources also include mobile games, which are small forms of digital games. According to Pannu and Tomar (2010), mobile games refer to digital games played by using technologies within mobile devices. A mobile game also means “a video game played on a mobile phone” (Petrova, 2010). Therefore, mobile games simply refer to any type of digital game which can be played on mobile devices.

Mobile games differ from other platforms. Mobile games are with the characteristics of “portability, accessibility, networkability, and simplicity” (Jeong & Kim, 2009, p. 186). Mobile game types and mechanics are similar to digital games played on computers—regardless of the limited screen size and memory of mobile devices.

### Digital Game-Based Learning and Vocabulary Learning

The Digital Game-Based Learning (DGBL) approach originally emerged in the last decades of the 20th century (Prensky, 2001). Prensky (2001) claimed that the approach has occurred when there was a global technology boom. He stated that during the particular period, teenagers of the last 20th century were fascinated by digital music and devices. He also asserted that digital game-based learning has become one of the significant materials in learning, especially language learning.

There have been many academic educators who reviewed the effects of digital games integrated into learning. For instance, Whitton (2009) pointed out that characteristics of digital games could be underlying to good learning. In terms of digital game-based pedagogy, the concept could be related to “active learning and constructivism, experiential learning, collaborative learning, and problem-based learning” (Whitton, 2009). Moreover, Griffiths (2002) claimed that “video games can provide elements of interactivity that may stimulate learning.” He also indicated that the outcomes of games for educational purposes should be clarified to teachers and students. Consequently, it is important to set the goal of gaming, otherwise playing games for pleasure and educational purpose might not be different.

In recent years, many scholars have insisted that learning English vocabulary from digital games results in positive effects. Digital games could be introduced as an alternative tool to assist language learners in vocabulary learning for three main reasons: to encourage vocabulary learning, to improve vocabulary knowledge, and to use vocabulary to communicate.

First, digital games can encourage English language learners to learn vocabulary. Yip and Kwan (2006) pointed out that learning vocabulary face-to-face in classrooms or reading from textbooks may not engage student's attention in the digital age. Instead, people nowadays gradually prefer to play games as one of their recreational activities to enhance their English skills. Unlike television, books and other media, games can moderate players' intensity in learning by interaction (Lund, 2012). In other words, television and books only engage audiences/readers' attention passively. On the other hand, game players have options to interact with a variety of fun and challenging tasks while playing digital games which could motivate learning. According to Vidlund (2012), the perception of using digital games to encourage vocabulary learning was a positive result. One respondent reported that unfamiliar words were acquired from using digital games. Moreover, Ashraf et al. (2014) also claimed that digital games can encourage learners with fun, interactive content which was suitable for vocabulary acquisition.

Second, the features of mobile games help improve players' knowledge of vocabulary. Repeated words in digital games assist players in memorizing vocabulary. By exposing to English vocabulary games online, Yip and Kwan (2006) reported that ESL learners were able to memorize words in the long term. Schmidt (2010) also claimed that "frequency of input is an important factor for language acquisition." To this extent, digital games facilitate players by frequent vocabulary input as the games allow players to interact with each word repeatedly. Ranalli (2008) reported that every time players press a scroll bar in the Sim 4, they will see a word such as 'decorations' that appear in a row. In this way, players can see the word repeatedly before start looking for some desirable objects.

Besides, digital games promote communicative abilities in the target language. Players need to use English vocabulary to communicate while gaming. Social interaction is essential for students' language proficiency. It is noticeable that without social interaction, players feel a lack of motivation, opportunities for practicing target language skills, and immediate feedback; all three components are crucial if language learners desire to increase their communicative abilities in the target language (Cabraja, 2016; Mäki-Kuutti, 2014; Rudis & Svetozar, 2016; Vidlund, 2012). By doing so, language learners have an opportunity to acquire English vocabulary and practice their English while gaming. For example, in role-playing games type called Multiplayer Online Games (MMOs). MMOs are old text-based adventure games with online environments where multiple players log on to participate and interact in real-time (Saulter, 2007). This type of game contains various types of tree names, fictional creature names, names of everyday life items, old proverbs, dialogues written in old English for players to memorize and use them to communicate with their team during gameplay.

### **Research methodology**

The research study is a mixed-method—combining quantitative and qualitative approaches to ensure the conclusion is accurate and reliable. The quantitative data comprises of pretest and posttest scores while the qualitative data was obtained from a semi-structured interview for information in depth.

The participants were 25 employees from a full-service animatic company located in Bangkok, Thailand. They were 25-35 years of age. They were selected by purposive sampling as a single group participant. The reason for choosing these participants for the study was that they work for an international company but their English language proficiency was not at a satisfactory level.

The research instruments used in this study were an English vocabulary test, three mobile games with English voice announcer and subtitles, and a semi-structured interview.

To compare the level of participants' vocabulary knowledge before and after the treatment, an English vocabulary test was developed by the researcher to use for both pretest and posttest. The test consists of 20 multiple choice items. Three types of target vocabulary covered commanding, communication, and in-game objects vocabulary. The questions included the definition of words, spelling, and using words in context.

Three mobile games that were selected as a treatment of this study included *Life is Strange*, *Dead Island*, and *Iron Blade*. The criteria for choosing the three mobile games were: 1) the three mobile games are free to play; 2) the three games are categorized as top-grossing games on smartphones; 3) English vocabulary in the three mobile games includes commanding, communication, and in-game objects.

A semi-structured interview was employed to investigate the attitudes toward vocabulary learning through mobile games. The interview included five open-ended questions. The participants were able to express freely about their attitudes toward learning English vocabulary through mobile games.

This research study lasted six weeks. At the beginning of the process, the participants who agreed to participate were asked to sign a consent form. In the first week, the researcher presented the plan for gaming for an educational purpose. After that, the participants were asked to complete the English vocabulary pretest. In the second week, they were asked to install *Life is Strange* in their smartphones at home and play it after work for two times (30 minutes per day). To control the activity, the participants were observed by the researcher while gaming. In the third and fourth weeks, they did the same with the other two games, namely *Dead Island*, and *Iron Blade*. In the fifth week, the participants were asked to take a posttest. Finally, five participants were randomly selected for an interview after completing a posttest.

Data from the pretest and posttest were analyzed using mean scores, standard deviations, and the *t*-test analysis. Dependent *t*-test analysis was used to determine whether there were any differences between the vocabulary knowledge mean score of the participants before and after the treatment. Besides, data from the semi-structured interview was analyzed by content analysis.

## **Findings**

The effect of using mobile games to enhance English vocabulary knowledge for Thai employees in an international workplace

It was found that the use of mobile games was effective in enhancing Thai employees' vocabulary knowledge. The analysis is shown in Table 1.

| Experimental Group | n  | M    | SD    | t       | p-value |
|--------------------|----|------|-------|---------|---------|
| Pretest            | 25 | 4.39 | 1.749 | 11.163* | 0.000*  |
| Posttest           | 25 | 7.39 | 1.524 |         |         |

\*Significance at the 0.001 level ( $p < 0.001$ )

Table 1: The Comparison of the Mean Scores of Pretest and Posttest

Table 1 shows that there were statistical differences between the mean scores of the pretest and posttest ( $p < 0.01$ ). The mean scores of the posttest ( $M = 7.39, SD = 1.524$ ) were higher than the mean scores of the pretest ( $M = 4.39, SD = 1.749$ ), indicating that the use of three mobile games had a positive impact on Thai employees' English vocabulary knowledge. The improvements in each aspect of vocabulary knowledge, including spelling, meaning, and use are also shown in Figure 1.

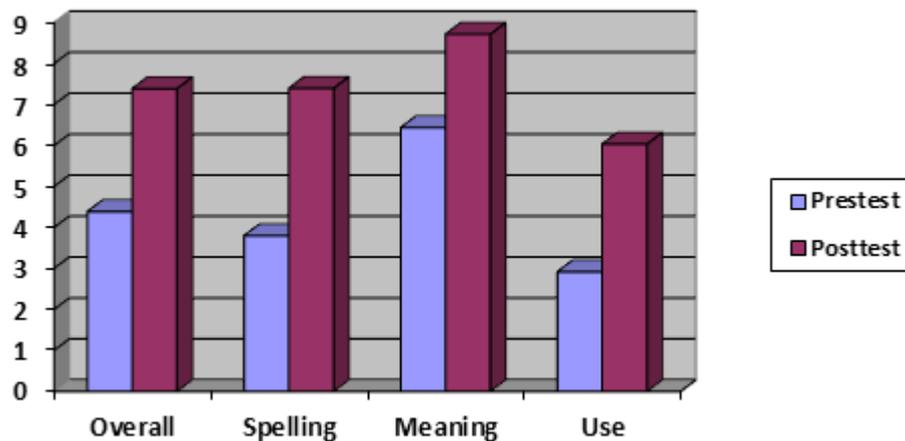


Figure 1: The Overall Mean Scores and the Mean Scores of Vocabulary Knowledge in Each Aspect  
 Thai Employees' Attitudes toward Using Mobile Games to Enhance English Vocabulary Knowledge

It was found that the data from the interview supported the result of the test. The volunteered participants reported that they were satisfied with using mobile games to enhance English vocabulary. Generally, all of the participants mentioned that the three mobile games: *Life is Strange*, *Iron Blade*, and *Dead Island* equipped with interesting content and challenging tasks which encourage them to continue playing. Most of the participants stated that the three mobile games can motivate them to play because of beautiful scenarios, especially *Life is Strange*.

To investigate the attitudes of using mobile games to enhance English vocabulary, the semi-structured interview was collected. The result from a semi-structured interview indicated that all interviewees (100%) agreed that mobile games supported English vocabulary knowledge. Also, there were positive attitudes from the participants using mobile games to support vocabulary knowledge of spelling, meaning, and use. First, mobile games supported Thai employees in memorizing English words. All of the interviewees (100%) asserted that they could remember and spell unfamiliar words correctly from playing three sample mobile games. Second, mobile games assisted Thai employees to understand the meaning of words in context. Four of the interviewees (80%) claimed that the meaning of words was obtained from playing these three mobile games. Two participants mentioned that “Mostly we can understand the meaning of words by looking at images of objects on the screen without using translating programs.” Third, mobile games aided Thai employees to use words in context appropriately. Three of the interviewees (60%) reported that they can learn how to use vocabulary in context properly. One interviewee stated that “I learned new words by reading subtitles and descriptions provided in the three mobile games.” Therefore, the use of mobile games in enhancing English vocabulary results in various positive feedbacks from the participants.

## **Discussion**

It was found that using mobile games to enhance Thai employees’ English vocabulary was effective. After the experiment, the English vocabulary knowledge of the participants was increased. Moreover, the knowledge of each aspect of vocabulary knowledge: spelling, meaning, and use was found to be developed. In addition, employees had highly positive attitudes toward using mobile games to improve vocabulary knowledge.

By inspecting the insight effects of mobile games on English vocabulary knowledge, there were several factors that helped to improve English vocabulary knowledge. First, mobile games engaged players to acquire vocabulary knowledge. Similar to the idea of Rudis & Svetozar (2016), the content and internal lore of three sample mobile games stimulated interaction from players. Therefore, knowing English vocabulary was useful for employees to interact with particular game content. Second, mobile games supported employees to memorize English words and phrases. In agreement with Vidlund (2012), the participants could retain words and phrases in a long period of time. Third, mobile games encouraged players to communicate with peers in order to develop their vocabulary knowledge. As stated by Mäki-Kuutti (2014), digital game players can discuss with other players to progress specific game tasks.

More importantly, mobile games had positive effects on the participants’ attitudes. The reason is that the elements of sound, visual, and contents in mobile games positively motivated players to learn new words. It is reported that employees were stimulated by voiceover sounds during gameplay. In addition, employees asserted that the narrative style of game content made vocabulary learning to be more interesting. In accord with the idea of Rasti and Dehaan (2018), players felt more immersed in the virtual world of fantasy settings. As a result, all of the elements in mobile games were reported by employees that they helped to enhance vocabulary knowledge.

The findings of the study are in line with previous studies. It was found that using mobile games could foster players to learn English vocabulary. This is similar to the result of Huang, Chang, and Wu (2017) who conducted a study on using a mobile game-based learning application in a bilingual setting that using mobile games could motivate a group of people to learn new words. In addition, the result of this study is also in line with Dore et al. (2019) who investigated the effects of how narrative mobile games create an immersive experience and learned English vocabulary in a meaningful context.

Overall, this study points out that using mobile games in a meaningful context builds an ideal learning environment for language learners. Instead of solely playing mobile games for enjoyment, employees can acquire useful knowledge of English vocabulary to use in their workplace.

### **Suggestions**

The study of using mobile games to enhance English vocabulary proved that using mobile games was effective for Thai employees. It can be advantageous not only for adults but also for students who learn the English language. In schools, using mobile games to enhance language skills can be implemented as a teaching tool as well. The findings suggested that mobile games can make language learners be more active. Students can enjoy learning English vocabulary during the process of acquiring vocabulary. Therefore, it can be an alternative way to enhance language learning in classrooms.

It will be better if the treatment is examined through a longer period of time. In this study, the duration of using mobile games to enhance English vocabulary was a short period of time. By extending the duration of the study, it can be confirmed that English language learners still use mobile games to enhance language learning.

Furthermore, it will be interesting to study the effects of using other categories of mobile games to enhance other English language skills: reading, writing, speaking and listening.

### **Limitations**

The findings of the study may not confirm that all types of mobile games can support English language learners on improving English vocabulary as it was conducted by using only three sample mobile games.

Besides, the results of this study may not generalize to a large amount of people in other companies. The participants were restricted in a group of 25 participants. It was only a particular group of Thai employees who were willing to improve their English vocabulary knowledge.

### **Acknowledgment**

This research study was funded by (GRAD S-3-62) from Graduate School, Srinakharinwirot University.

## References

Anand, V. (2007). A study of time management: the correlation between video game usage and academic performance markers. *CyberPsychology and Behavior*, 10(4), 552-559.

Ashraf, H., Motlagh, F. G., & Salami, M. (2014). The impact of online games on learning English vocabulary by Iranian (low-intermediate) EFL learners. *Procedia-Social and Behavioral Sciences*, 98, 286-291. doi:10.1016/j.sbspro.2014.03.418

Beavis, C. (Ed.), Dezuanni, M. (Ed.), O'Mara, J. (Ed.). (2017). *Serious play*. New York: Routledge.

Cabraja, A. (2016). *The effects of video games on the receptive vocabulary proficiency of Swedish ESL students*. Retrieved from <http://www.diva-portal.org/smash/record.jsf?pid=diva2%3A936329&dswid=-8479>

Caro, K., & Mendinueta, N. R. (2017). Lexis, lexical competence and lexical knowledge: A review. *Journal of Language Teaching and Research*, 8(2), 205-213.

Clark, D. B., Killingsworth, S. S., Martinez-Garza, M., Eaton, G. V., Biswas, G., Kinnebrew, J. S., ... & Hughes, J. (2013). Digital games and science learning: design principles and processes to augment commercial game design conventions. In *AIED 2013 Workshops Proceedings Volume 2 Scaffolding in Open-Ended Learning Environments (OELEs)* (p. 1).

Dore, R. A., Shirilla, M., Hopkins, E., Collins, M., Scott, M., Schatz, J., ..., & Toub, T. S. (2019). Education in the app store: Using a mobile game to support US preschoolers' vocabulary learning. *Journal of Children and Media*, 13(4), 1-20. doi:10.1080/17482798.2019.1650788

EF English Proficiency Index (2018). Retrieved from <https://www.ef.co.th/epi/regions/asia/thailand/>

Grace, L. (2005). *Game type and game genre*. Retrieved from [http://aii.lgracegames.com/documents/Game\\_types\\_and\\_genres.pdf](http://aii.lgracegames.com/documents/Game_types_and_genres.pdf)

Griffiths, M. D. (2002). *The educational benefits of video games*. Retrieved from <https://sheu.org.uk/sheux/EH/eh203mg.pdf>

Huang, Y. L., Chang, D. F., & Wu, B. (2017). Mobile game-based learning with a mobile app: Motivational effects and learning performance. *Journal of Advanced Computational Intelligence and Intelligent Informatics*, 21(6), 963-970.

Jeong, E. J., & Kim, D. J. (2009). Definitions, key characteristics, and generations of mobile games. In *mobile computing: concepts, methodologies, tools, and applications*. In *Handbook of Research on Gaming Trends in P-12 Education*. Pennsylvania, PA: IGI Global.

- Karasavvidis, I. (2018). Educational serious games design. In *Handbook of Research on Gaming Trends in P-12 Education* (pp. 3295). Pennsylvania, PA: IGI Global.
- Lund, A. V. (2012). *Sound and music in narrative multimedia: A macroscopic discussion of audiovisual relations and auditory narrative functions in film, television and video games*. (Published Bachelor's thesis), University of Oslo, Oslo, Norway.
- Mäki-Kuutti, M. (2014). *Language acquisition through interaction between gamers in digital gaming environments*. (Published Bachelor's Thesis), University of Jyväskylä, Finland.
- Min, Y. K. (2013). Vocabulary acquisition: practical strategies for ESL students. *Journal of International Students*, 3(1), 64-69.
- Nishanthi, R. (2018). Importance of English language in today's world. *International Journal of Trend in Scientific Research and Development (IJTSRD)*, 3(1), 871-874. doi:10.31142/ijtsrd19061
- Nordquist, R. (2019). English language: history, definition, and examples. Retrieved from ThoughtCo website: <https://www.thoughtco.com/what-is-the-english-language-1690652>
- Pannu, P., & Tomar, Y. A. (2010). *ICT4D: Information communication technology for development*. New Delhi, Delhi: I K International Publishing House.
- Petrova, K. (2010). Mobile gaming: perspectives and issues. In *Encyclopedia of E-Business Development and Management in the Global Economy* (pp. 789-800). Hershey, PA: Business Science Reference.
- Prensky, M. (2001). Digital Natives, Digital Immigrants part 1. *On the horizon*, 9(5), 1-6.
- Ranalli, J. (2008). Learning English with The Sims: exploiting authentic computer simulation games for L2 learning. *Computer Assisted Language Learning*, 21(5).
- Rasti, A., & Dehaan, J. (2018). *Why video games are advantageous in vocabulary teaching: A systematic review of literature*. Retrieved from [https://www.researchgate.net/publication/325989040\\_Why\\_Video\\_Games\\_Are\\_Advantageous\\_in\\_Vocabulary\\_Teaching\\_A\\_Systematic\\_Review\\_of\\_Literature](https://www.researchgate.net/publication/325989040_Why_Video_Games_Are_Advantageous_in_Vocabulary_Teaching_A_Systematic_Review_of_Literature)
- Rose of York Language School. (2016). Is English important for your career? Retrieved from <https://www.roseofyork.com/is-english-important-for-your-career/>
- Rudis, D., & Svetozar, P. (2016). Influence of video games on the acquisition of the English language. *Verbum*, 8(8), 112-128.
- Saengpakdeejit, R. (2014). Strategies for dealing with vocabulary learning problems by Thai university students. *Silpakorn University Journal of Social Sciences, Humanities, and Arts*, 14(1), 147-167.

- Saulter, J. (2007). *Introduction to video game design and development*. New York, NY: McGraw-Hill.
- Schmitt, N. (2010). *Vocabulary use and acquisition*. London: Palgrave Macmillan.
- Skoric, M. M., Teo, L. L. C., & Neo, R. L. (2009). Children and video games: addiction, engagement, and scholastic achievement. *Cyberpsychology & behavior*, *12*(5), 567-572.
- Stanley, G. (2013). *Language learning with technology: Ideas for integrating technology in the classroom*. Cambridge: Cambridge University Press.
- Vidlund, A. (2013). *English in video and online computer games: Potential enhancement of players' vocabulary*. (Published Bachelor's thesis), Linnaeus University, Växjö, Sweden.
- Weis, R., & Cerankosky, B. (2010). Effects of video-game ownership on young boys' academic and behavioral functioning: a randomized, controlled study. *Psychological sciences*, *21*(4), 463-470.
- Whitton, N. (2009). *Learning with digital games: a practical guide to engaging students in higher education*. London: Routledge.
- Witchaiyutphong, K. (2011). *English barriers for Thai employees working in an international setting: A study at Thomson Reuters Company in Thailand*. (Published Master's thesis), Thammasat University, Language Institute.
- Yip, F. W., & Kwan, A. C. (2006). Online vocabulary games as a tool for teaching and learning English vocabulary. *Educational media international*, *43*(3), 233-249. doi:10.1080/09523980600641445