INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN PROGRESSIVE EDUCATION & DEVELOPMENT

HRMARS MANAGEMENT ACADEMIC RESEARCH SOCIETY EXPLORING INTELLECTUAL CAPITAL

www.hrmars.com

ISSN: 2226-6348

Sustaining English Language Education with Digital Educational Games: A Systematic Review

Chan Mei Yi, Melor Md Yunus

To Link this Article: http://dx.doi.org/10.6007/IJARPED/v12-i2/16666 DOI:10.6007/IJARPED/v12-i2/16666

Received: *06* February 2023, ***Revised:*** *08* March 2023, ***Accepted:*** *29* March 2023

Published Online: *17* April 2023

In-Text Citation: (Yi & Yunus, 2023)

To Cite this Article: Yi, C. M., & Yunus, M. M. (2023). Sustaining English Language Education with Digital Educational Games: A Systematic Review. *International Journal of Academic Research in Progressive Education and Development*, *12*(2), 220–241.

Vol. 12(2) 2023, Pg. 220 - 241

http://hrmars.com/index.php/pages/detail/IJARPED | **JOURNAL HOMEPAGE**


INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN PROGRESSIVE EDUCATION & DEVELOPMENT
HRMARS MANAGEMENT ACADEMIC RESEARCH SOCIETY EXPLORING INTELLECTUAL CAPITAL
www.hrmars.com
ISSN: 2226-6348

Sustaining English Language Education with Digital Educational Games: A Systematic Review

Chan Mei Yi, Melor Md Yunus
Faculty of Education, Universiti Kebangsaan Malaysia (UKM), Bangi 43600, Selangor, Malaysia
Email: meiyi0712@gmail.com, melor@ukm.edu.my

Abstract
Digital game-based learning progressively emerged due to its interdisciplinary nature for sustaining language education. Notwithstanding, presumptions regarding the pertinent nature of language education with admissible leisure learning activities arbitrate perceptions about digital gaming, allowing many educators to be sceptical about the impact of digital game play. Prior study has investigated numerous distinctive slants but is still scattered. The review of the impact of digital educational game in the English Language Learning (ELL) is comparatively meagre. In consequence, this systematic review was administered to ponder the emerging trend of digital games within the English language education in respect to cognition and affection domain. A total of 34 research articles from year 2018 to 2022 were identified over three databases, namely Google Scholar, ERIC along with SAGE Journals complying to Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) mechanism. Overall, the findings of the review showed that the integration of digital educational game brings positive impacts in English language education in terms of cognition and affection outcomes. For future research, it is recommended that more attention should be put on scrutinizing the pedagogical and assessment issues associated with digital game-based in English education.
Keywords: Digital Game-Based Learning, Sustaining, English Language Learning (ELL), Cognition, Affection

Introduction

In this increasingly digitalized globe, the propensity of digital game utilization in the learning industry has embarked the globe by hurricane wherein its potential in provisioning quality education and learning aligned along with the fourth target of the Sustainable Development Goals (SGDs) has been verified from time to time. Education for sustainability emphasizing on the execution of education programmes to promote ecological sustainability, whereas education of sustainability is regarded as the establishment of sustainable modes of effective tactics via educational progress and development (Abd Rahman et al., 2021). Combining sustainability in language learning can be executed through executing various educational pedagogies alongside the assimilation of technology, specifically through digital educational gameplay.

Information and Communication Technologies (ICTs) have altered the education realm where informative setups encounter enhancing diversities as well as complications. Moreover, learners in the present age have been termed digital natives because they digitally raised. Thereby, in this millennial era, digital game-based education has ended up being a massive research option which has opened up plenty of research study regions for scientists to broaden their suggestions. The integration of digital educational games in education is regarded to possess a huge effect in promoting learning engagement and motivation. Digital game-based language learning targets to provide ideal means in facilitating the language learners in acquiring English fascinatingly, as well as meeting the fourth objective of the Sustainable Development Goals (SDGs). Restricting the range of discovery, language education is indeed as crucial as other industrial spheres, especially the English language, considering its status as the global language and its significant role as a way of interaction (Rafiq et al., 2021).

Within the context of this review, digital game-based English language learning (DGBELL) refers to the digitalization of teaching and learning practice predominantly implemented through digital game-based tools and resources in delivering instructional content and conducting learning activities specifically focusing on English language learning (ELL). Depending on to Asrifan et al (2020), the order of English comes to be essential given that of its own substantial task as a global language and the language made use of in scientific research as well as modern technologies. Notwithstanding, various educators are still sceptical concerning the effect of digital educational game fostering in ELL because of the presumptions pertaining to the essential attributes of formal language learning with admissible recreation learning tasks. Despite the vast number of experimental observations for DGBELL, there is a scantiness of systematic reviews focusing on DGBELL particularly in cognition and affection outcomes. As a result, it is important to canvas the literature on how digital educational game has influenced the English language learning. This review intends to fill this gap systematically through identifying and synthesizing evidence from empirical studies evaluating digital games' impacts on cognition and affection outcomes as well as the types of digital game used through the articles published in year 2018 until 2022. This study was driven by two research questions: a) What impact do digital educational games have on English language learning? b) What digital games have been used to facilitate English language learning? These questions would be used to choose appropriate studies for inclusion in this systematic review. The findings of the research will be synthesized and characterized to answer both questions after they have been analysed.

Literature Review

Digital Game-Based Education

For the number of years, the innovation of modern technologies has taken new opportunities for knowledge acquisition in the academic setting. Amongst the research on educational technologies, digital game-based learning (DGBL) has gotten intensifying focus. As defined by Hung et al (2018), DGBL refers to a playful and digital task which consists of educational purposes, evaluation and assessment items. Particularly, DGBL intends to assist learners in getting over feasible barriers such as learning stress and anxiousness, low motivation, understanding problem, low engagement as well as the deficiencies of interaction, thus supplying academic advantages along the gameplay. Through the fostering of digital educational games in learning, it can yield benefits such as to engage and motivate learners,

enhance and practice abilities, promoting problem solving skills, communication, collaboration and reasoning skills.

The popularization of digital games comes from an adjustment in learners. Nowadays, learners in the 21st century grow up with contemporary technologies includes TVs, iPads, computers and smart phones and therefore are digital natives. The Z-generation learners who are labelled as digital natives tend to choose teamwork, experiential tasks, the modern technology integration and expecting learning to be enjoyable and autonomous. To warrant the quality learning experience amongst this generation, digital educational games which able to trigger prior knowledge and after that scaffold learning in addition to offering instant feedback were taken on into the education context nowadays. As recommended by Bozkurt and Durak (2018), digital game is an important facet of human culture and society to promote motivation and involvement. Digital game-based learning which considered as technology-based learning is believed to be an innovative acquisition method for primary and secondary educations along with higher-level education in making the procedure extra interactive and collaborative (Yunus et al., 2021).

A number of parameters have been used to designate digital games utilized for academic purposes. Whereas the multiple terminology encompasses a variety of same goal, which is to attain the learning objectives with digital games. The execution of specific learning objectives via digital game play is to accelerate learning by incorporating problem-solving issues and constraints that will provide learners, whom are players, with a sense of accomplishment (Chen et al., 2021). Game-based learning methods strive to enhance or tweaking a conventional education algorithm that create a revamped form of the method that individuals feel as game-like (Landers et al., 2018). In the context of learning, gamification is indeed a design principle that employs game design elements to alter current educational protocols (Landers et al., 2018). Stages, scores, awards, recognition awards, characters, missions, or scoring are elements of game components that highlight the use of game-based qualities, aesthetics, and game-thinking to engage learners (players), drive their behaviours and so cultivate learning habits to solve problems.

English Language Learning Via Digital Games

Since English plays a critical role in prepping for the Fourth Industrial Revolution (IR4.0), thus, it's a merit when an individual able to effectively interact in English as this earning them an extra chance to be recruited in this speedily progressing globe (Lim & Yunus, 2021). Therefore, in order to warrant the high quality and sustainability of language education, numerous research executed to find the effective instruction methods. Just recently, the impacts of interactions with digital games on English language acquisition go on bring in the attention of researchers within education field as well as game developers as digital games are substantially incorporated within classroom instruction. Digital educational games fundamentally shift the educational experiences into a game play and combine gameplay tactics and components alongside existing instructional methods as well as to effectively excite and promote learning. These amusing amenities comprise victory plaques, scores, leader boards, progression, missions as well as game levels are some examples of these entertaining features (Krishnan et al., 2021). By embracing digital games within English language education, it's indeed effective to minimize learners' uneasiness and create

circumstances wherein learners could cooperate and interact with peers for using language meaningfully and in a casual environment (Wong & Yunus, 2021).

As according to Klimova and Kacetl (2018), DGBLL assists language acquisition by giving audible as well as visual disclosure to the target language, highlighting specific language knowledge, and fostering participation and interaction in learning language. Until now, countless researchers reported that DGBLL worked for English language learning in terms of vocabulary, pragmatics, grammar, writing and speaking skills. Hung et al (2018) discovered that immersive and tutorial games for facilitating language skills acquisition and affective states were mainly used on computers, which were one of the most prominent PC gaming gadgets. Acquah and Katz (2020) explored digital games' influence on foreign language English (FLE) for high-school and primary pupils and reported that learning-driven DGBLL with favourable impacts on language exploring and affective states.

The goal of digital educational games integration in the English language institution settings is to directly affect learning behaviours and attitudes appropriate for English language acquisition. Subsequently, these attitudes and behaviours are hypothesized to affect the association between the instructional content and learning outcomes by means of either small amounts or mediation, depending on the nature of the behaviours and attitudes targeted by digital academic games. Incorporating game mechanics to the language learning environment changes the environment and would have an impact on learning outcomes. Digital game-based method contributes to a diversity of academic achievement, with the majority of the cognitive domain (Behnamnia & Kamsin, 2020; Sailer & Homner, 2019; Van-Gaalen et al., 2020). To commence, cognition referred to as a collection of procedures as well as systems whereby a subject recognizes the environment through logic and problem-solving (Lamb et al., 2018). Many research studies reported on the combination of DGBELL reveal significant enhancement in critical thinking, creative thinking (Behnamnia & Kamsin, 2020), expertise acquisition and content understanding (Makri et al., 2021) as well as perceptual skills (Lamb et al., 2018). Nonetheless, contradictory findings regarding academic results recommend the combination of emotional and motivational outputs contributes to knowledge construction, which correlates to distinguished educational performance (Bai et al., 2010).

Cognitive Outcomes

Some researchers have indeed presented experimental research studies that verified the advantages of digital games in an instructional and learning context. The research study administered by Putz et al (2020) intended to explore the capacity of a digital game to promote expertise retention. The study results suggested that digital games utilized produce a favourable influence on expertise retention and improve students' learning outcomes. Besides that, Chen and Chang (2020) established a digital language game to investigate the effects of true competition and immersive competition on learner knowledge, in which the results of a genuine experiment revealed the learners' performances with immersive competition seem to be significantly improved than true competition, and the learning behaviour of learners enhanced. Furthermore, the research done by Groening and Binnewies (2019) intended for evaluating the influence of digital accomplishments on learners' productivity, with the results indicating an improvement in the learners' results. Similarly, Zhang and Yu (2021) disclosed that Kahoot can improve learning outcomes. Yeşilbağ et al

(2020) as well recommended that computer game can be utilized in education as an interactive ICT tool to increase learners' academic success in English learning. Likewise, a research study by Chen et al (2020) indicated that the digital adventure game alone can aid ESL learners in understanding new words.

Affective Outcomes

Among the justifications precisely why digital game-based learning has indeed emerged as so prominent is that gaming is taken into consideration as motivating (Bai et al., 2020). Motivation clarifies the reason of human acts in which it defines all internal processes giving behaviour its power and position. In education, motivation is a conceptual construct that emerges in behaviour which contribute to desirable cognitive consequences such as enhanced learning and performance. Accorded to the findings of Pitoyo and Sumardi (2020), the researchers asserted that learners were motivated and eager to learn more deeply after doing numerous gamified assessments with Quizizz in English TOEFL structure class. Another research by Halim et al (2020) indicated that favourable feedbacks demonstrated by the learners reflecting their motivation, perspectives and concession towards English acquisition through online quizzes such as Kahoot! and Quizizz due to components of amusement, delight, and competitiveness in digital games. The digital online game, Kahoot is observed to create an intriguing, entertaining as well as highly motivated learning platform, is shown to help boost learning goals, instructional dynamics, and reduce student stress and anxiousness by (Wang & Tahir, 2020). Likewise, Alonso-Fernández et al (2020) pointed out that Kahoot! can improve learners' engagement, motivation, and learning outcomes. Furthermore, research by Serrano (2019) hypothesized that digital game-based learning which includes game design features together with educational design, there generally is a positive influence on student engagement and motivation. In addition, she also mentioned that digital game-based learning showed a significant positive consequence on student achievement (Serrano, 2019). Thus, undeniably, the interdisciplinary nature of digital games assists not only in enhancing the language skills, it also indirectly promotes pupils' self-motivation to be adaptative in the learning as well as enhance their knowledge.

Aim of Systematic Review

Although former scholars have performed substantial investigations on digital game-based learning to assess the effectiveness of educational technology in education. Nonetheless, there is a paucity of review with an emphasis on digital game-based language acquisition, notably on English language learning. Given the aforementioned aims, this review seeks to meet that gap by providing an overview focusing the impact of digitalized game-based English language learning (DGBELL) and the types of digital games utilized in English language learning (ELL). A systematic review was carried out to address response to the following research questions:

RQ1: What impact do digital educational games have on English language learning?
RQ2: What digital games have been used to facilitate English language learning?

Methodology

The review and analysis throughout this review were conducted conforming to the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) 2020 criteria, a sanctioned standard based on evidence that includes 27-item checklist in improving the transparency of the study. Aforementioned, the aim of the paper is to describe the impact of

digital game-based English language learning (DGBELL) and types of digital games utilized in English education. This review fundamentally assesses the profound impacts of DGBELL contributing to English language education, specifically on cognition and affection outcomes, by examining a selected array of articles affiliated with the impacts of digital educational games. This paper is grounded on the systematic scrutiny executed on the chosen articles from three databases, which comprise Google Scholar, ERIC as well as SAGE Journals, from year 2018 until 2022. The study begins with identifying articles associated with the integration of digital educational games on English language learning using the three previously indicated data sources. The information accumulated proceeded through three different phases, primarily the identification phase, the screening phase as well as the inclusion phase.

Phase 1: Identification Phase

Google Scholar, ERIC as well as SAGE Journals were the chosen databases employed in this study. The search array was limited from 2018 to 2022. Google Scholar was employed since it is the most complementary educational web browser that allows researchers to gain access easily the full documents and various peer-reviewed scholarly literary works. In the meantime, the Education Resources Information Center (ERIC) database was exploited as it functions as the biggest online educational-based digital library that provides rich selections of accepted educational journals and research sources. Last but not least, SAGE Journals is a databases site that offers digital journals and reference materials in the domains of humanities, sociological sciences, scientific research, innovation, business, and medicine. Table 1 shows the keywords employed when browsing on articles. Additional data was added to enumerate the papers corresponding to the parameters of the researchers while exploring for papers, as demonstrated within Table 2.

Table 1
Keywords Employed to Browse Related Papers

Databases	**Keywords**
Google Scholar	Digital game-based AND English learning, Digital game-based AND English second language, Digital game-based AND English foreign language, Impact of digital game-based AND English, Effectiveness of digital game-based AND English, Digital game-based AND learning outcomes, Digital game-based AND learning behaviour, Digital game-based AND learners' motivation, Digital game-based AND learners' engagement
ERIC	Digital game-based AND English learning, Digital game-based AND English second language, Digital game-based AND English foreign language, Impact of digital game-based AND English, Effectiveness of digital game-based AND English, Digital game-based AND learning outcomes, Digital game-based AND learning behaviour, Digital game-based AND learners' motivation, Digital game-based AND learners' engagement
SAGE Journals	Digital game-based AND English learning, Digital game-based AND English second language, Digital game-based AND English foreign language, Impact of digital game-based AND English, Effectiveness of digital game-based AND English, Digital game-based AND learning outcomes, Digital game-based AND learning behaviour, Digital game-based AND learners' motivation, Digital game-based AND learners' engagement

Phase 2: Screening Phase

While browsing relevant papers through Google Scholar, ERIC as well as SAGE Journals, duplicates were located with mindful screening and omits accordingly. The academic articles selected from three databases were re-investigated to verify the left ones were in conformity with previously predetermined criteria. Several papers have been eliminated because they failed to provide the reviewer with unrestricted access. This phase was crucial in ensuring that the information seized within the research was of high quality and reliability. The gathered papers were next scrutinized for eligibility, since the papers undoubtedly must fulfil the standards outlined in Table 2's inclusion section.

Table 2

Inclusion	**Criterion**	**Exclusion**
2018-2022	Year of publication	Studies before 2018
Journal articles	Article type	Systematic reviews, book chapters, dissertations, reports, proceedings
Written in English	Language	Text not written in English
Digital	Game type	Non-digital

Inclusion and Exclusion Criteria

Phase 3: Exclusion Phase

The remaining papers were discarded from this review after being verified for eligibility in the previous phase. The omitted papers were those which were not researched academic journals and were published before 2018. Non-English-language research publications were likewise eliminated. Non-peer-reviewed papers, as well as qualitative and quantitative research studies and articles written on the influence of non-digital educational games, were also excluded by the researchers. Similar to the eligibility stage, the exclusion phase was likewise essential to ensure the researchers obtained quality information. Only 34 papers which fulfilled the requirements for the study were included in the final stage. The studies considered comprise quantitative studies, qualitative studies, mixed-method research, action research as well as experimentation studies published from 2018 to 2021. Several criteria were employed to construct a high-quality review. Figure 1 summarizes the specifics of the data gathering procedure employing the PRISMA flow.

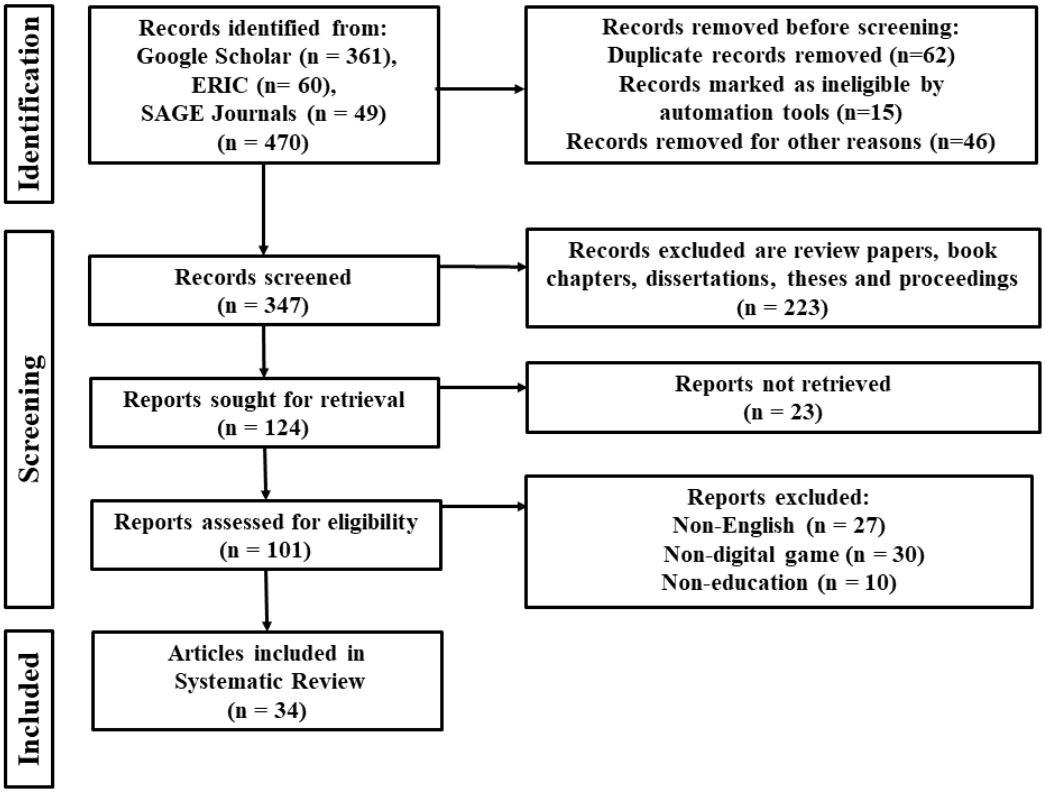

Figure 1 Flow chart of the process of selecting research articles

Results

The outcomes of the research paper selection procedure will undoubtedly be fully reviewed in this section. Throughout three phases of selecting the eligible papers for evaluation, 34 research articles were discovered to be relevant being employed within this review according to the attributes of the research. According to the results, three major impacts in regard to cognition and affection outcomes can be translucent through the execution of digital game-based English language learning (DGBELL), mainly language skills, motivation and engagement. Table 3 shows the tabulated results on the impact of DGBELL focused on cognition and affection outcomes whereas Table 4 presents a distribution of the number of literatures pertaining to this review which were retrieved on Google Scholar, ERIC, and SAGE Journals.

Table 3
Impact of DGBELL Focused on Cognition and Affection Outcomes

Study	Cognition Outcomes	Affection Outcomes	
	Language Skills	Motivation	Engagement
Rachayon & Soontornwipast (2019)	✓		
Hao & Lee (2019)		✓	
Yang & Quadir (2018)		✓	
Ronimus et al (2019)	✓		✓
Chen & Hsu (2019)	✓		
Gamlo (2019)		✓	
Berry (2021)	✓		
Yavuz et al (2020)	✓		
Chotipaktanasook & Reinders (2020)	✓		
Chandra & Kepirianto (2021)	✓	✓	
Castillo-Cuesta (2022)	✓	✓	✓
Castillo-Cuesta (2020)	✓		
Wichadee & Pattanapichet (2018)		✓	
Sagubay-Lozarito & Segumpan (2022)	✓		✓
Horowitz (2019)			✓
Yunus & Tan (2021)	✓		
Padar (2022)	✓	✓	
Marsa et al (2021)	✓	✓	✓
Vásquez & Ovalle (2019)	✓	✓	✓
Pahamzah et al. (2020)	✓	✓	
Taskiran (2019)		✓	✓
Barcomb & Cardoso (2020)	✓		✓
Tan et al (2019)	✓	✓	
Li (2021)	✓	✓	
Lai & Chang (2021)	✓	✓	
Guaqueta & Castro-Garces (2018)	✓		
Arce & Valdivia (2020)	✓	✓	✓
Wu (2019)	✓	✓	
Hashim et al (2019)	✓		
Vélez-Agosto & Rivas-Vélez (2018)	✓		
Yürük (2020)	✓		
Budasi et al. (2020)		✓	
Korkmaz & Öz (2021)	✓	✓	✓
Hazar (2020)	✓		

Table 4
Number of Studies Discussing About the Distinct Impacts Of DGBELL

Impact	Number of Research Articles
Language skills	27
Motivation	18
Engagement	10

Discussion

Within this segment, the impacts of digital game-based language learning (DGBELL) in regard to cognition and affection outcomes will be discussed in three main aspects, primarily language skills, motivation and engagement.

Impacts of DGBELL in Regard to Cognition Outcomes (Language Skills)

The findings shed the light on the impacts of DGBELL in regard to cognition and affection outcomes. In the first research question, the impact of digital educational games on cognition outcomes which focused on the language skills have been examined. Listening, speaking, reading, writing, vocabulary, grammar, as well as other fundamental skills are aspects of language skills in the English language. Over half of the studies with a total of 27 out of 34 articles investigated on the impact of digital games in enhancing learner's cognition outcomes which depicts that digital game assists in English language acquisition. Educators identified that digital games impacted in the English language lesson by creating a fun, meaningful and enjoyable atmosphere (Rachayon & Soontornwipast, 2019; Taskiran, 2019; Barcomb & Cardoso, 2020; Vélez-Agosto & Rivas-Vélez, 2018; Yürük, 2020). As explained by the researchers (Ronimus et al., 2019; Berry, 2021; Barcomb & Cardoso, 2020; Yürük, 2020) stated in their study that experimental group showed significant improvements in pronunciation skill than the control group which showed higher cognitive engagement. Additionally, the researchers go on to point out that usage of digital games as a learning media can maximizes the language learning which will help to assist students' reading comprehension skill in English learning (Marsa et al., 2021; Pahamzah et al., 2020; Tan et al., 2019; Korkmaz & Öz, 2021). According to Marsa et al (2021); Tan et al (2019), they disputed that instead of hardcopy materials, the learners were more likely reading on the mobile platform. Most probably, this is due to the digital games such as Quizizz and Kahoot! platform adopted in the lesson provides participants with instant feedback related to their performances. Learners must get more points in the game by accurately fielding questions which creates a sense of competition among the learners forcing the learners to perform better indirectly.

Vocabulary in English language is extremely tough since there are so numerous terms having variety of meanings, making it much easier to misinterpret the meaning. Thus, DGBELL focuses on vocabulary as one of the competencies. A number of 12 studies conducted to identify the effects of digital games in improving the English vocabulary acquisition (Chen & Hsu, 2019; Chandra & Kepirianto, 2021; Sagubay-Lozarito & Segumpan, 2022; Padar, 2022; Vásquez & Ovalle, 2019; Pahamzah et al., 2020; Tan et al., 2019; Guaqueta & Castro-Garces, 2018; Vélez-Agosto & Rivas-Vélez, 2018; Hazar, 2020). Based on the study by Vásquez and Ovalle (2019), an evaluation of the findings acquired from the vocabulary assessment, learners' and educators' records revealed that following the intervention of a digital game on English vocabulary, the learners could acquire a considerable amount of vocabulary.

Subsequently, Guaqueta and Castro-Garces (2018) highlights that after the implementation of digital games (Duolingo and Kahoot) for vocabulary building in EFL context, the learners faced the vocabulary test with confidence and no fears. This is supported by Li (2021) who agreed that learners profited from a digitized game-based vocabulary tool in terms of vocabulary achievement and self-esteem.

Besides, English is fundamentally hard to learn in specific ways. Also, the grammar instruction is a difficult issue in language teaching in which they always have some vagueness and irregularities that perplex even native language user. Thus, in order to make the grammar lesson comprehensible and fun for learners, a few studies have been conducted and show positive outcomes (Castillo-Cuesta, 2020; Yunus & Tan, 2021; Wu, 2019; Hashim et al., 2019). Castillo-Cuesta (2020) confirmed that digital games found to be effective in helping learners strengthen their grammar in domains like the application of modal verbs, gerunds, and infinitives. Two similar findings reported by Yunus and Tan (2021) depicted that the digital game assist in enhancing pupils' learning of irregular past tense verbs as well as the implementation of augmented reality game (Pokemon Go) by Wu (2019) on uses of prefix, root and suffix in learning English showed positive outcomes. On the other hand, Castillo-Cuesta (2022) examined the impact of digital game-based learning in facilitating writing skills and discovered on the employment of digitalised game (Genially games), which proven to be beneficial in improving reading and writing skills in English foreign language acquisition. Learners even had a favourable attitude about the utilisation of digital game-based tasks (Castillo-Cuesta, 2022). Writing skill is commonly found to be the hardest skill and a complex process for students. Thus, digital technologies particularly digital games implemented able to shape students' writing in myriad ways as digital games can create a dynamic that can inspire learners to develop the writing skills and competencies as they focus on the game.

Impacts Of DGBELL In Regard to Affection Outcomes (Motivation and Engagement)

Digital game-playing induced a massive involvement in learning as learners had greater motivation to play games. Learners will be doubting the reason why they need to acquire the language if they are lacking motivation in learning, and they just stick to their mother tongue or first language. Out of 34 articles, 18 studies were found to be focused on learners' motivation while learning English language through playing digital games and reported that DGBELL led to higher motivation compared with traditional teaching method (Hao & Lee, 2019; Yang & Quadir, 2018; Gamlo, 2019; Chandra & Kepirianto, 2021; Castillo-Cuesta, 2022; Wichadee & Pattanapichet, 2018; Padar, 2022; Marsa et al., 2021; Vásquez & Ovalle, 2019; Pahamzah et al., 2020; Taskiran, 2019; Tan et al., 2019; Li, 2021; Lai & Chang, 2021; Arce & Valdivia, 2020; Wu, 2019; Korkmaz & Öz, 2021). In the research conducted by the researchers, the quantitative findings identified that the learners' motivation in the experimental group who underwent the intervention of digitalised educational games was much higher than that of the control group (Hao & Lee, 2019; Wichadee & Pattanapichet, 2018; Wu, 2019). As asserted by Castillo-Cuesta (2022) and Castillo-Cuesta (2020), motivation fosters positive beliefs and expectations and as a result, learners are much more eager to participate in the learning process, resulting in the growth of language skills. Furthermore, within a study conducted by Padar (2022), revealed that playing digital games while learning gives learners a high sense of motivation because they are connecting with their tech-savvy nature. While the Z-generation learners are connecting with something familiar to digital, a comfortable and

conducive learning atmosphere will be formed which leads to their willingness to take charge of their own learning.

Engagement is the key to effective language learning. It describes the vibrant state when learners are proactively thinking about, concentrating on and enjoying their language learning. Student engagement takes into consideration one of the considerable forecasters of effective language acquisition. Based on Vásquez and Ovalle (2019), the author argued that the experience of learning with digital video games undeniably improved the learners' engagement and sociability both in and out of learning institute. It is apparent that learners ought to be afforded the opportunity to control their personal learning. Players will become more captivated and perceive possession of the game play if they can control the atmosphere of the games. Becoming an autonomous learner enables them to be more accountable, ultimately results in greater performance through greater cognitive engagement (Ronimus et al., 2019). Furthermore, the evidence from the research conducted by Marsa et al. (2021) as well as Arce and Valdivia (2020) suggested that high percentage of students are more inclined to use gamified digital tools due to the competitiveness in a virtual environment. Likewise, Korkmaz and Öz (2021) indicated that from the participants' answers to survey along with the open-ended questions also revealed that their engagement in digital games leads to a significant increase in their reading scores after seven weeks of intervention incorporating Kahoot.

The findings paint a clear picture on how digital game-based language learning (DGBELL) has indeed been investigated and the kinds of consequences it provides. Depending upon those findings, it is apparent the DGBELL could be employed extensively for English language learning as well as affective traits such as motivation and engagement.

Types of Digital Games Used to Facilitate ELL

Subsequently, the outputs on types of digital games used to assist English language learning (ELL) can also be discovered in the identified studies. Most of the educators in the research utilize more commercial digital games compared to own designed digital games and verified that commercial games have now increasingly been accepted by the educators to be adopted in classroom instruction. Table 5 represents the findings on the types of digital games used to facilitate ELL that is pertinent toward the second research question of this review.

Table 5
Types of Digital Games Used to Facilitate ELL

Study	Researcher-designed Game	Commercial Game	Example
Rachayon & Soontornwipast (2019)	✓	✓	Cool Nurse
Hao & Lee (2019)	✓	✓	AR Games
Yang & Quadir (2018)	✓		Interactive Game
Ronimus et al (2019)		✓	Grapho Learn
Chen & Hsu (2019)		✓	Playing History
Gamlo (2019)		✓	Combination of 4 digital games
Berry (2021)		✓	Spaceteam ESL
Yavuz et al (2020)		✓	Edmodo
Chotipaktanasook & Reinders (2020)		✓	MMORPG (Ragnorak Online)
Castillo-Cuesta (2022)	✓		Genially Games
Castillo-Cuesta (2020)	✓	✓	Educaplay, Canvas platform
Wichadee & Pattanapichet (2018); Marsa et al (2021); Tan et al (2019); Yürük (2020); Korkmaz & Öz (2021)		✓	Kahoot!
Sagubay-Lozarito & Segumpan (2022)	✓		Digital vocabulary game
Horowitz (2019)		✓	MMORPG
Yunus & Tan (2021); Pahamzah et al. (2020)		✓	Quizizz
Vásquez & Ovalle (2019)		✓	Scribblenauts & Age of Empires II
Taskiran (2019)	✓		4 AR games
Barcomb & Cardoso (2020)		✓	Moodle
Li (2021)		✓	Baicizhang vocabulary
Lai & Chang (2021)		✓	Aurasma AR App
Guaqueta & Castro-Garces (2018)		✓	Duolingo, Kahoot
Wu (2019)		✓	Pokemon Go
Hashim et al (2019)	✓	✓	Socrative, PowerPoint Challenge Game, Kahoot
Vélez-Agosto & Rivas-Vélez (2018)		✓	My English Coach
Budasi et al (2020)	✓		PowerPoint Game
Hazar (2020)		✓	EBA (Education Informatics Network) Platform

Chandra & Kepirianto (2021); Padar (2022); Arce & Valdivia (2020)	✓	Not specified

Pertaining to digital game types or platforms, as seen in Table 5, more than half of the studies with total of 26 of the 34 articles retrieved cited educators recruited more commercial digital games compared to own designed digital games. Specifically, as can be seen in Table 5, Kahoot was recorded to be the most commonly used digital game platform followed by Quizizz among the commercially available games. Considered that both these digital games platform are very beneficial tools as it generates fun, meaningful as well as sense of competition for the learners. As identified by Hao and Lee (2019), the graphic in digital games has been the most prominent feature of game creation. According to the findings of Hao and Lee (2019), high-quality aesthetics within the production of digital games are sufficient to fulfil entertaining effects, interesting characters and narratives, rewards, badges, and quests. This is strengthened by Chen and Hsu (2019) asserted that many learners commented that they appreciated and were attracted to the beautiful characters and the interesting storylines. Another essential point to be specified by the three studies (Wichadee & Pattanapichet, 2018; Marsa et al., 2021; Yürük, 2020) is that digital games which generate instantaneous feedback own a considerable impact on learners' motivation. For instance, Kahoot allows the learners to obtain and participate in input or outcomes instantaneously. They can glimpse the viable candidate on the screen whilst enjoying the game. Formerly, paper-based assessments would be the only method to ascertain if students comprehend the teachings or otherwise, and they may even not be notified with the instant feedback, that can contribute to demotivation. The integration of digital games for language learning is therefore pragmatic than the traditional way. This is echoed by Guaqueta and Castro-Garces (2018) expressed the opinion that digital game-based learning provided opportunities for learners to evaluate their knowledge and identify the need to continue improving.

Conclusion

Digital game-based English language learning (DGBELL) is growing progressively in the English education realm as well as in the educational technology congregation. This systematic literature review scrutinized the impact of digital game-based on English language explicitly in terms of cognition outcomes (language skills acquisition) and affection outcomes (motivation and engagement), as well as the type of digital games employed in facilitating English language acquisition. The results reveal that employing digital games in the English education benefited the learners through enhancing their cognition and affection outcomes. To summarize, based on the analysed articles, DGBELL indeed brings positive impacts in terms of improving their language knowledge and skills as well as motivating and engaging the language learners in the classroom. The interdisciplinary nature of digital games helps to create a fun, enjoyable and meaningful learning atmosphere which yields in cognitive outcomes which correlate to excellent academic performance at educational institutions. Digital game-based learning tools recommended in revolutionizing ELL meet the expectations of professionals with excellent computing skills in the worldwide market. Another essential point, this systematic literature review also analysed types of digital games implemented in facilitating ELL. 26 of the 34 academic articles reviewed stated that the researchers utilized more commercial digital games than their own designed digital games. It is apparent that the

contemporary commercial games have now increasingly accepted by the educators to be adopted in their teaching methods rather than simply considering digital games as a kind of amusement with no advantages. All stakeholders within the education realm are about time realizing as well as embracing the advantages of the digitalized educational game in intensifying teaching and learning approaches for diverse learners at all levels of institutions. Altogether, the adoption of digital game-based in English education for provisioning quality education to fulfil the contemporary educational demands and permitting continual adaptation set forth in the education of sustainability which is anchored with the fourth goal of the Sustainable Development Goals (SGDs).

Contribution of This Study

This study offered an alternate viewpoint in pondering the emerging trend of digital games within the English language education in respect to cognition and affection domain. The usage of digital games in English teaching and learning has been shown to have profound impacts on learners' cognitive and affection domains. The arcade feature of digital games makes English learning more enjoyable, engaging, and participatory, which has increased motivation, involvement, and engagement. Additionally, it is worth noting that the findings of this review will shed new light on the implementation of digital game tools in English language acquisition. The findings show that digital educational games have contributed to better English language acquisition in a variety of ways. In general, digital educational games have enhanced pupils' learning performance and motivation in the English language acquisition. Ultimately, if stakeholders consider the elements impacting language acquisition, the incorporation of digital educational games in the teaching and learning process could help to improve the overall quality of education. This study proposes that educational policymakers examine digital learning guidelines in order to eliminate and avoid the obstacles that may impede integration. As a whole, this systematic review would benefit both educators and pupils by enlightening them about a new alternative in English language teaching and learning while also informing stakeholders about its constraints in order to more effectively promote the implementation of digital game learning in the future.

Limitations and Recommendations

This comprehensive study exposes educators all across the globe with insight about the impact of digital game-based learning on cognition outcomes (language skills acquisition) and affection outcomes (motivation and engagement), particularly in English language learning (ELL). The majority of studies shown a positive impact on the employment of digitalized games in English language acquisition. The results could provide insight about the integration of digital educational games for English language instruction. There are a few constraints worth noting in this review that academics might investigate in the future. First and foremost, this review only examined 34 papers from Google Scholar, ERIC along with SAGE Journals. Furthermore, this study summarizes numerous research that explore the effects of digital games in the cognitive and affective realms. Thus, the researchers proposed that for upcoming investigators to examine numerous databases for acquiring information through various resources in order to gain valuable and broaden the subject. Since this review found that commercial games most adopted in the language learning, thus, it is recommended that future research should take into consideration on the pedagogical issues in regard to the deployment of commercial games in relation to the learning aims and proficiency level since such games just aren't personalized to suit the needs of diverse learners. More significantly,

the path ahead to address these issues should be outlined. Substantial study on the usage of digital game-based education ought to be performed in the future to raise alertness of all its efficacy in fostering language acquisition amongst diverse learners. Until adequate study has been conducted, educators and stakeholders will be capable to recognize the merits that digital educational games must offer for a truly sustainable education system throughout the world.

References

Abd Rahman, S. F., Yunus, M. M., & Hashim, H. (2021). Applying UTAUT in Predicting ESL Lecturers Intention to Use Flipped Learning. *Sustainability*, 13(15), 8571. https://doi.org/10.3390/su13158571

Acquah, E. O., & Katz, H. T. (2020). Digital game-based L2 learning outcomes for primary through high-school students: A systematic literature review. *Computers & Education*, 143, 103667. https://doi.org/10.1016/j.compedu.2019.103667

Alonso-Fernandez, C., Martinez-Ortiz, I., Caballero, R., Freire, M., & Fernandez-Manjon, B. (2019). Predicting students' knowledge after playing a serious game based on learning analytics data: A case study. *Journal of Computer Assisted Learning*, 36(3), 350-358. https://doi.org/10.1111/jcal.12405

Arce, H. N. P., & Valdivia, C. A. M. (2020). Adapting Competitiveness and Gamification to a Digital Platform for Foreign Language Learning. *International Journal of Emerging Technologies in Learning (IJET)*, 15(20), 194-208. https://doi.org/10.3991/ijet.v15i20.16135

Asrifan, A., Vargheese, K. J. T. S., & Amir, M. (2020). ESP Course Design: The Need Analysis on Tourism Department in Indonesia Vocational High Schools. *Journal of Advanced English Studies*, 3(2), 69-77. https://doi.org/10.47354/jaes.v3i2.85

Bai, S., Hew, K. F., & Huang, B. (2020). Does gamification improve student learning outcome? Evidence from a meta-analysis and synthesis of qualitative data in educational contexts. *Educational Research Review*, 30, 100322. https://doi.org/10.1016/j.edurev.2020.100322

Barcomb, M., & Cardoso, W. (2019). Rock or Lock? Gamifying an online course management system for pronunciation instruction: Focus on English /r/ and /l/. *CALICO Journal*, 37(2), 127-147. https://doi.org/10.1558/cj.36996

Behnamnia, N., Kamsin, A., & Ismail, M. A. B. (2020). The landscape of research on the use of digital game-based learning apps to nurture creativity among young children: A review. *Thinking Skills and Creativity*, 37, 100666. https://doi.org/10.1016/j.tsc.2020.100666

Berry, D. M. (2021). Level up your pronunciation: Impact of a mobile game. *MEXTESOL Journal*, 45, 1-12.

Bozkurt, A., & Durak, G. (2018). A Systematic Review of Gamification Research. *International Journal of Game-Based Learning*, 8(3), 15-33. https://doi.org/10.4018/ijgbl.2018070102

Budasi, I. G., Ratminingsih, N. M., Agustini, K., & Risadi, M. Y. (2020). Power Point Game, Motivation, Achievement: The Impact and Students' Perception. *International Journal of Instruction*, 13(4), 509-522. https://doi.org/10.29333/iji.2020.13432a

Castillo-Cuesta, L. (2020). Using Digital Games for Enhancing EFL Grammar and Vocabulary in Higher Education. *International Journal of Emerging Technologies in Learning (IJET)*, 15(20), 116-129. https://doi.org/10.3991/ijet.v15i20.16159

Castillo-Cuesta, L. (2022). Using Genially Games for Enhancing EFL Reading and Writing Skills in Online Education. *International Journal of Learning, Teaching and Educational Research*, 21(1), 340-354. https://doi.org/10.26803/ijlter.21.1.19

Chandra, C., & Kepirianto, C. (2021). Digital-game-based language learning for children: A study in vocabulary. *Culturalistics: Journal of Cultural, Literary, and Linguistic Studies*, 5, 29-33. http://ejournal.undip.ac.id/index.php/culturalistics.

Chen, H. J. H., & Hsu, H. L. (2019). The impact of a serious game on vocabulary and content learning. *Computer Assisted Language Learning*, 33, 811-832. https://doi.org/10.1080/09588221.2019.1593197

Chen, H. J. H., Hsu, H. L., Chen, Z. H., & Todd, A. G. (2020). Investigating the Impact of Integrating Vocabulary Exercises into an Adventure Video Game on Second Vocabulary Learning. *Journal of Educational Computing Research*, 59(2), 318-341. https://doi.org/10.1177/0735633120963750

Chen, S. Y., & Chang, Y. M. (2020). The impacts of real competition and virtual competition in digital game-based learning. Computers in Human Behavior, 104, 106171. https://doi.org/10.1016/j.chb.2019.106171

Chen, X., Zou, D., Kohnke, L., Xie, H., & Cheng, G. (2021). Affective states in digital game-based learning: Thematic evolution and social network analysis. *PLOS ONE*, 16(7), e0255184. https://doi.org/10.1371/journal.pone.0255184

Chotipaktanasook, N., & Reinders, H. (2020). A Massively Multiplayer Online Role-Playing Game and Effects on Interaction in the Second Language. *Language Learning and Literacy*, 424-446. https://doi.org/10.4018/978-1-5225-9618-9.ch023

Gamlo, N. (2019). The Impact of Mobile Game-Based Language Learning Apps on EFL Learners' Motivation. *English Language Teaching*, 12(4), 49-56. https://doi.org/10.5539/elt.v12n4p49

Groening, C., & Binnewies, C. (2019). "Achievement unlocked!" - The impact of digital achievements as a gamification element on motivation and performance. *Computers in Human Behavior*, 97, 151-166. https://doi.org/10.1016/j.chb.2019.02.026

Guaqueta, C. A., & Castro-Garces, A. Y. (2018). The Use of Language Learning Apps as a Didactic Tool for EFL Vocabulary Building. *English Language Teaching*, 11(2), 61–71. https://doi.org/10.5539/elt.v11n2p61

Hao, K. C., & Lee, L. C. (2019). The development and evaluation of an educational game integrating augmented reality, ARCS model, and types of games for English experiment learning: an analysis of learning. *Interactive Learning Environments*, 29, 1101-1114. https://doi.org/10.1080/10494820.2019.1619590

Hashim, H., Rafiqah M. R. K., & Yunus, M. M. (2019). Improving ESL Learners' Grammar with Gamified-Learning. *Arab World English Journal*, 5, 41-50. https://doi.org/10.24093/awej/call5.4

Hazar, E. (2020). Use of Digital Games in Teaching Vocabulary to Young Learners. *Educatia 21*, 19, 98-104. https://doi.org/10.24193/ed21.2020.19.12

Horowitz, K. S. (2019). Video games and English as a second language: The effect of massive multiplayer online video games on the willingness to communicate and communicative anxiety of college students in Puerto Rico. *American Journal of Play*, 11, 379-410.

Hung, H. T., Yang, J. C., Hwang, G. J., Chu, H. C., & Wang, C. C. (2018). A scoping review of research on digital game-based language learning. *Computers & Education*, 126, 89-104. https://doi.org/10.1016/j.compedu.2018.07.001

Klimova, B., & Kacetl, J. (2018). Computer Game-Based Foreign Language Learning: Its Benefits and Limitations. *Communications in Computer and Information Science*, 843, 26-34. https://doi.org/10.1007/978-981-13-0008-0_3

Korkmaz, S., & Oz, H. (2021). Using Kahoot to improve reading comprehension of English as a foreign language learner. *International Online Journal of Education and Teaching (IOJET)*, 8, 1138-1150.

Krishnan, S. D., Norman, H., & Yunus, M. M. (2021). Online Gamified Learning to Enhance Teachers' Competencies Using Classcraft. *Sustainability*, 13(19), 10817. https://doi.org/10.3390/su131910817

Lai, J. Y., & Chang, L. T. (2021). Impacts of Augmented Reality Apps on First Graders' Motivation and Performance in English Vocabulary Learning. *SAGE Open*, 11(4), 1-13. https://doi.org/10.1177/21582440211047549

Lamb, R. L., Annetta, L., Firestone, J., & Etopio, E. (2018). A meta-analysis with examination of moderators of student cognition, affect, and learning outcomes while using serious educational games, serious games, and simulations. *Computers in Human Behavior*, 80, 158-167. https://doi.org/10.1016/j.chb.2017.10.040

Landers, R. N., Auer, E. M., Collmus, A. B., & Armstrong, M. B. (2018). Gamification Science, Its History and Future: Definitions and a Research Agenda. *Simulation & Gaming*, 49(3), 315-337. https://doi.org/10.1177/1046878118774385

Li, R. (2021). Does Game-Based Vocabulary Learning APP Influence Chinese EFL Learners' Vocabulary Achievement, Motivation, and Self-Confidence? *SAGE Open*, 11(1), 1-12. https://doi.org/10.1177/21582440211003092

Lim, T. M., & Yunus, M. M. (2021). Teachers' Perception towards the Use of Quizizz in the Teaching and Learning of English: A Systematic Review. *Sustainability*, 13(11), 6436. https://doi.org/10.3390/su13116436

Makri, A., Vlachopoulos, D., & Martina, R. A. (2021). Digital Escape Rooms as Innovative Pedagogical Tools in Education: A Systematic Literature Review. *Sustainability*, 13(8), 4587. https://doi.org/10.3390/su13084587

Marsa, S. S., Kuspiyah, H. R., & Agustina, E. (2021). The effect of Kahoot! game to teaching reading comprehension achievement. *Journal of English Teaching*, 7, 133-149. https://doi.org/https://doi.org/10.33541/jet.v7i2.2738

Padar, C. V. (2022). Digital games as motivational tools in the teaching of vocabulary. *International Journal of Research Publication and Reviews*, 3, 666-677.

Pahamzah, J., Syafrizal, S., Juniardi, Y., & Sukaenah, P. M. (2020). Quizizz as a students' reading comprehension learning media: A case study at the eleventh grade of Dwi Putra Bangsa vocational school in Cimanggu. *International Journal of English Language and Linguistics Research*, 8, 27-33.

Pitoyo, M. D., Sumardi, S., & Asib, A. (2020). Gamification-Based Assessment: The Washback Effect of Quizizz on Students' Learning in Higher Education. *International Journal of Language Education*, 4(2), 1-10. https://doi.org/10.26858/ijole.v4i2.8188

Putz, L. M., Hofbauer, F., & Treiblmaier, H. (2020). Can gamification help to improve education? Findings from a longitudinal study. *Computers in Human Behavior*, 110, 106392. https://doi.org/10.1016/j.chb.2020.106392

Rachayon, S., & Soontornwipast, K. (2019). The Effects of Task-based Instruction Using a Digital Game in a Flipped Learning Environment on English Oral Communication Ability of Thai Undergraduate Nursing Students. *English Language Teaching*, 12(7), 12-32. https://doi.org/10.5539/elt.v12n7p12

Rafiq, K. R. M., Hashim, H., & Yunus, M. M. (2021). Sustaining Education with Mobile Learning for English for Specific Purposes (ESP): A Systematic Review (2012–2021). *Sustainability*, 13(17), 9768. https://doi.org/10.3390/su13179768

Ronimus, M., Eklund, K., Pesu, L., & Lyytinen, H. (2019). Supporting struggling readers with digital game-based learning. *Educational Technology Research and Development*, 67(3), 639-663. https://doi.org/10.1007/s11423-019-09658-3

Sagubay-Lozarito, K. K., & Segumpan, M. V. J. (2022). Effectiveness of Digital Games in Students' Vocabulary. *International Journal of English Language Teaching*, 10(3), 8-14. https://doi.org/10.37745/ijelt.13/vol10no2pp.8-14

Sailer, M., & Homner, L. (2019). The Gamification of Learning: A Meta-analysis. *Educational Psychology Review*, 32, 77-112. https://doi.org/10.1007/s10648-019-09498-w

Serrano, K. (2019). *The effect of digital game-based learning on student learning: A literature review*. UNI Scholar Works. https://scholarworks.uni.edu/grp/943/

Shakir A. A. H. M., Hashim, H., & Yunus, M. M. (2020). Pupils' Motivation and Perceptions on ESL Lessons through Online Quiz-Games. *Journal of Education and E-Learning Research*, 7(3), 229-234. https://doi.org/10.20448/journal.509.2020.73.229.234

Tan, D. A. L., Lee, B. C., Ganapathy, M., & Kasuma, S. A. A. (2019). Language Learning in the 21st Century. *International Journal of Virtual and Personal Learning Environments*, 9(2), 55-71. https://doi.org/10.4018/ijvple.2019070104

Taskiran, A. (2018). The effect of augmented reality games on English as foreign language motivation. *E-Learning and Digital Media*, 16(2), 122-135. https://doi.org/10.1177/2042753018817541

Van-Gaalen, A. E. J., Brouwer, J., Schönrock-Adema, J., Bouwkamp-Timmer, T., Jaarsma, A. D. C., & Georgiadis, J. R. (2020). Gamification of health professions education: A systematic review. *Advances in Health Sciences Education*, 32, 683-711. https://doi.org/10.1007/s10459-020-10000-3

Vasquez, C. G., & Ovalle, J. C. (2019). Video Games: Their Influence on English as a Foreign Language Vocabulary Acquisition. *GIST – Education and Learning Research Journal*, 19, 172-192. https://doi.org/10.26817/16925777.707

Velez-Agosto, N. M., & Rivas-Velez, A. (2018). Benefits and meanings of educating with videogames in a Puerto Rican sixth grade public school classroom. *International Journal of Educational Technology*, 5, 9-19.

Wang, A. I., & Tahir, R. (2020). The Effect of Using Kahoot! for Learning – A Literature Review. *Computers & Education*, 149(149), 103818. https://doi.org/10.1016/j.compedu.2020.103818

Wichadee, S., & Pattanapichet, F. (2018). Enhancement of performance and motivation through application of digital games in an English language class. *Teaching English with Technology*, 18, 77-92.

Wong, H. T. C., & Yunus, M. M. (2021). Board Games in Improving Pupils' Speaking Skills: A Systematic Review. *Sustainability*, 13(16), 8772. https://doi.org/10.3390/su13168772

Wu, M. H. (2019). The applications and effects of learning English through augmented reality: A case study of Pokémon Go. *Computer Assisted Language Learning*, 34, 778-812. https://doi.org/10.1080/09588221.2019.1642211

Yang, J. C., & Quadir, B. (2018). Individual differences in an English learning achievement system: gaming flow experience, gender differences and learning motivation. *Technology, Pedagogy and Education*, 27(3), 351-366. https://doi.org/10.1080/1475939x.2018.1460618

Yavuz, F., Ozdemir, E., & Celik, O. (2020). The effect of online gamification on EFL learners' writing anxiety levels: A process-based approach. *World Journal on Educational Technology*, 12(2), 62-70. https://doi.org/10.18844/wjet.v12i2.4600

Yesilbag, S., Korkmaz, O., & Cakir, R. (2020). The effect of educational computer games on students' academic achievements and attitudes towards English lesson. *Education and Information Technologies*, 25, 5339-5356. https://doi.org/10.1007/s10639-020-10216-1

Yunus, C. C. A., & Tan, K. H. (2021). Exploring a Gamified Learning Tool in the ESL Classroom: The Case of Quizizz. *Journal of Education and E-Learning Research*, 8(1), 103-108. https://doi.org/10.20448/journal.509.2021.81.103.108

Yunus, M. M., Ang, W. S., & Hashim, H. (2021). Factors Affecting Teaching English as a Second Language (TESL) Postgraduate Students' Behavioral Intention for Online Learning during the COVID-19 Pandemic. *Sustainability*, 13(6), 3524. https://doi.org/10.3390/su13063524

Yuruk, N. (2020). Using Kahoot as a skill improvement technique in pronunciation. *Journal of Language and Linguistic Studies*, 16(1), 137-153. https://doi.org/10.17263/jlls.712669

Zhang, Q., & Yu, Z. (2021). A literature review on the influence of Kahoot! On learning outcomes, interaction, and collaboration. *Education and Information Technologies*, 26, 4507-4535. https://doi.org/10.1007/s10639-021-10459-6

Chan Mei Yi is a primary school English educator. She obtained her Bachelor of Education (Hons) in Teaching of English as a Second Language (TESL) from Institute of Teacher Education Kent Campus, Malaysia in 2017. Currently, she is teaching in a primary school in Sarawak, Malaysia. In the meantime, she is pursuing her master's degree at Universiti Kebangsaan Malaysia (UKM). Her main areas of research interest are innovation ESL teaching and learning as well as gamification in language education.

Prof. Dr. Melor Md Yunus is a Professor of English Language Education and Innovative Pedagogies and currently is a Deputy Dean of Research and Innovation at the Faculty of Education, Universiti Kebangsaan Malaysia. She is best known for establishing the integration of ICT in teaching and learning English as a Second Language research. She is active in scholarly journal writing and publishing and has currently published more than 500 papers in Citation-Indexed journals particularly WoS and SCOPUS. Her publications are on the integration of ICT in teaching and learning English as a Second Language, Technology-enhanced Language Learning (TELL), Computer-assisted Language Learning (CALL) and Innovative Pedagogies.