Digital video games and Language Learners' Vocabulary learning, motivation and engagement: Teachers' perceptions of types and effectiveness

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ABSTRACT

Digital video games are effective sources for learning language skills and components, particularly vocabulary. While digital video games have gained popularity as educational tools, there needs to be more research focusing on teachers' perspectives. The study adopts a qualitative research design, employing interviews to gather data. This qualitative research study explored the perceptions of 12 selected teachers through theoretical sampling. The teachers were asked to elaborate on the types and effectiveness of digital video games in young language learners' vocabulary learning. The findings revealed that teachers utilize various types of digital video games, including educational games, language-specific games, and interactive simulations, in vocabulary instruction. Teachers perceived these games as effective in enhancing vocabulary learning by providing engaging and immersive experiences that promote active participation and motivation among young language learners. However, concerns about potential distractions and limited control over content are also identified. The study highlights the need for further research to support teachers in effectively integrating digital video games into language learning contexts. By understanding teachers' perceptions, this study contributes to the pedagogical implications of digital video games in language education and informs future practices in vocabulary instruction.

Keywords: Digital video games, young language learners, teachers' perceptions, engagement, motivation, qualitative research

Introduction

With the growing popularity of video games among young learners, educators have started to explore the potential of digital games as a tool for language learning. In particular, there has been increasing interest in using online digital video games to improve English vocabulary for young language learners. While there is still much to be learned about the effectiveness of

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digital games for language learning, some recent studies have shown promising results in this area. According to Zhu and Huang (2021), digital games can provide a fun and engaging way for students to learn vocabulary, as they offer a wide range of interactive and immersive experiences that can help students develop their language skills. Furthermore, digital games can provide a safe and low-stress environment for learners to practice their language skills, which can help reduce anxiety and increase motivation (Aghlara andTamjid, 2011; Ashraf, Motlagh, and Salami, 2014; Bakhsh, 2016; Gee, 2018; Wu, Zhang, & Wang, 2020).

Educational games have become increasingly significant in engaging learners (Bulut et al., 2022; Castronovo et al., 2022; Khan et al., 2022; Shi et al., 2022; Xiong et al., 2022; Yu et al., 2022). The expansion of the video game industry has led numerous organizations and game developers to focus on creating video games for educational purposes (Cole et al., 2023; Martinez et al., 2022; Palma-Ruiz et al., 2022). For instance, Amazon introduced the AWS Cloud Quest Game to help users acquire cloud computing skills in an enjoyable manner (Amazon, 2022).

Numerous studies have highlighted the effectiveness of utilizing computers and video games as educational tools to enhance motivation and the quality of learning experiences (Yu et al., 2022). Unlike the direct interaction between teachers and students in traditional game-based education (Jääskä & Aaltonen, 2022), players of educational video games often engage without teacher supervision. Regular players are primarily driven by the enjoyment derived from playing video games (Martucci et al., 2023). Consequently, educational video games must be enjoyable to sustain user motivation while providing educational value. If a game fails to be sufficiently entertaining or motivating, user engagement, particularly in unsupervised settings, may decline (Banyte & Gadeikiene, 2015). Therefore, the motivational elements embedded in educational games are essential for maintaining user engagement and achieving effective learning outcomes (Martucci et al., 2023).In this study, we explored teachers' perspectives on the most suitable online digital video games for improving English vocabulary for young language learners. We conducted a survey of language teachers to gather their opinions on which games are the most effective for vocabulary learning, and we will analyze the results to identify common themes and trends. In doing so, we hoped to provide valuable insights for educators interested in using digital games for language learning. To support our study, we drew on recent research on using digital games for language learning. For example, Castillo-Cuesta (2020) found that digital games improve learners' vocabulary and reading comprehension, while Wichadee and Pattanapichet (2018) found that digital games can enhance learners' motivation and engagement. Other studies, such as those by Liao et al. (2019) and Hunag, et al., (2018), have explored the design principles that make digital games effective for language learning. By building on this existing research, we can better understand the potential of digital games for improving English vocabulary for young language learners and provide practical recommendations for educators.

One possible gap is the limited exploration of the factors influencing teachers' perspectives on game-based learning for vocabulary acquisition. While the study may provide valuable insights into the most suitable games for improving English vocabulary, the reasons certain games are preferred over others may still need to be explored. Future research could focus on understanding the underlying factors that shape teachers' perspectives on game-based learning, such as their beliefs about learning, teaching, and technology, their level of comfort and familiarity with digital games, and their experience and training in using game-based approaches in the classroom (Tsai & Tsai, 2018). Additionally, research could investigate how teachers' perspectives are influenced by contextual factors, such as the availability of technology and resources, the curriculum and learning objectives, and the learners' age,

proficiency level, and cultural background. By exploring these factors, future research could provide a more comprehensive understanding of teachers' perspectives on the most suitable online digital video games for improving English vocabulary for young language learners. This could inform the development of more effective and engaging game-based learning experiences tailored to teachers' and learners' needs and preferences.

Research Questions

To achieve the above objectives, this study addressed the following research questions:

1. What are the most commonly used online digital video games for English vocabulary learning among young language learners, according to language teachers?
2. According to language teachers, how effective are these games for improving English vocabulary among young language learners?
3. What factors influence teachers' selection of online digital video games for English vocabulary learning among young language learners, such as game design, learner preferences, and educational objectives?

Review of literature

Theoretical background

This study is deeply rooted in Socio-Cultural Theory and Cognitive loading theory. Socio-cultural theory, developed by Vygotsky, emphasizes the role of social interaction and cultural context in cognitive development. In the context of digital video games, this theory highlights the importance of meaningful interactions and context-rich environments. Games provide a platform where learners interact socially, collaborate with peers, and use language for communication and problem-solving (Thompson, 2013). These interactions facilitate vocabulary acquisition as learners negotiate meaning, share knowledge, and co-construct understanding within the virtual worlds of the games. Socio-cultural theory also underscores the concept of the Zone of Proximal Development (ZPD), where learners can engage with language just beyond their current capabilities with the guidance of more knowledgeable others, such as teachers or more experienced players (Schilhab & Esbensen, 2019).

Cognitive Load Theory, proposed by Sweller& Chandler (1994), focuses on the mental effort required for learning and how instructional design can optimize cognitive resources. In digital video games, this theory suggests that well-designed games can manage the cognitive load by providing gradual challenges and scaffolding learning experiences. Contests can introduce new vocabulary that aligns with learners' cognitive abilities, avoiding overwhelming cognitive load. As players progress through game levels, tasks' increasing complexity and vocabulary usage allow learners to gradually incorporate new words into their lexicon. This theory supports that games can create an optimal balance between challenge and comprehension, fostering effective vocabulary acquisition (Sweller et al., 1998).

The use of digital games for teaching language has gained increasing attention in recent years. This literature review aims to provide an overview of the current research in this field, discussing the effectiveness of digital games for language learning, the factors that influence their use and energy, and the potential benefits and drawbacks of this approach. Ebrahimzadeh and Sepideh (2017) investigated the effect of using educational games on EFL learners' motivation and engagement, finding that using games enhanced students' motivation and engagement in learning. Boudadi and Gutiérrez-Colón (2014) found that gamification increased

student motivation and engagement in English language learning. Similarly, Pratama (2020) reported that digital games effectively teach vocabulary in a foreign language.

Zou, Huang, and Xie (2021) found that playing certain video games improved ESL pronunciation proficiency. Zhu and Huang (2019) reported that digital games effectively taught English vocabulary among junior high school students in Taiwan. Huang et al., (2018) highlighted the potential of game-based learning for building critical thinking skills.

Dominguez et al. (2013) found that gamifying learning experiences had practical implications and produced positive outcomes. Garris, Ahlers, and Driskell (2002) proposed a research and practice model for using games, motivation, and learning. Gee (2018) argued that video games were powerful learning tools. Hsu and Wang (2018) found that digital game-based vocabulary learning increased EFL learners' motivation and achievement. Zainuddin et al., (2020) reported that multimedia software applications effectively taught Taiwanese EFL students vocabulary. Lee and Kim (2017) conducted a meta-analysis of digital game-based learning and found it effective for L2 vocabulary acquisition. Rabu and Talib (2020) found that digital game-based vocabulary learning improved vocabulary knowledge and reading comprehension. Platz (2020) conducted a systematic review of digital game-based vocabulary learning and found that it positively affected language learning.

Petersen (2018) reviewed design principles and empirical research on digital game-based vocabulary learning. Liao et al. (2019) investigated the effects of different game design principles on students' learning motivation, cognitive load, and achievement. Abd-Alrazaq et al., (2019) conducted a meta-analysis of the effectiveness of digital games in vocabulary learning.

Other studies have explored the factors that influence the effectiveness of digital games for language learning. For example, Barab et al., (2009) argued that the design of digital games should be aligned with the pedagogical goals of language learning. Zhu and Huang (2019) found that students' prior gaming experience and attitudes toward gaming influenced the effectiveness of digital games for vocabulary learning. Cheng and Chen (2022) investigated the effects of different game conditions on EFL learners' vocabulary learning.

Motivation for vocabulary learning is a crucial aspect of language acquisition among young learners of English as a foreign language. Incorporating digital games in the classroom has emerged as a highly effective strategy for enhancing vocabulary acquisition. Several studies provide compelling evidence of the positive impact of digital games on students' vocabulary development, underscoring their significance in language education.

Peterson (2013) conducted a study involving kindergarten children, comparing vocabulary learning through digital games with traditional curriculum-based methods. The results revealed that children exposed to digital games exhibited superior vocabulary acquisition compared to their counterparts in conventional instructional settings. This finding highlights the potential of digital games to engage and motivate young learners while fostering vocabulary development.

Sundqvist and Sylvèn (2014) extended this research to 4th-grade English learners, further corroborating the advantages of digital game-based vocabulary instruction. Their study demonstrated that students taught through digital games achieved more favorable learning outcomes in vocabulary compared to those instructed using traditional methods. The success of digital games in enhancing vocabulary learning is evident in these results.

Taghizadeh Vaezi and Ravan (2017) emphasize that digital games offer a superior alternative to traditional methods for children's vocabulary acquisition. Their research supports the notion

that game-based learning provides a more effective and engaging approach to vocabulary development, aligning with the preferences of young learners.

Ashraf, Motlagh, and Salami (2014) underscore the positive effects of game-based learning on children's vocabulary. Their study reiterates the idea that digital games not only enhance vocabulary but also contribute to a more enjoyable and motivating learning experience, encouraging students to actively participate in their language acquisition. Calvo-Ferrer (2017) conducted a study demonstrating that students utilizing computer games for vocabulary practice achieved significantly better results compared to those using alternative methods. The efficacy of digital games in promoting vocabulary acquisition and retention is evident in this research, further emphasizing their potential in language education.

Garris et al. (2002) proposed a research and practice model for using games to enhance motivation and learning. Specifically, they argued that games offer a unique learning experience that can enhance motivation and engagement, leading to improved learning outcomes. Furthermore, they proposed a model that includes three components: game design, learner characteristics, and learning outcomes. In terms of game design, they highlighted the importance of challenges, interactivity, and feedback. For learner characteristics, they emphasized motivation, self-efficacy, and personality. Finally, they mentioned knowledge acquisition, skill development, and transfer for learning outcomes.

Building on this idea, Dominguez et al. (2013) found that gamifying learning experiences can increase student motivation and engagement. Through a review of studies that have applied game elements in educational contexts, they found that gamification can enhance motivation and engagement, leading to improved learning outcomes. In their framework for gamifying educational experiences, they emphasized the importance of game elements such as points, badges, and leaderboards and motivational factors such as autonomy, relatedness, and competence. They also highlighted learning outcomes such as knowledge acquisition, skill development, and transfer.

In addition, Petersen (2013) reviewed research on digital game-based learning for vocabulary acquisition. Through this review, the author identified common design principles that make digital games effective for vocabulary learning. These design principles include incorporating contextualized and meaningful vocabulary, providing timely feedback, and scaffolding learning tasks. The author suggested that using digital games for vocabulary learning can offer a more engaging and interactive learning experience.

Furthermore, Abd-Alrazaq et al., (2019) conducted a meta-analysis of the effectiveness of digital games for vocabulary learning. By reviewing 23 studies that have used digital games for vocabulary learning, the author found that digital games can effectively enhance vocabulary acquisition, retention, and transfer. The author suggested that the effectiveness of digital games for vocabulary learning is influenced by game design, learner preferences, and educational objectives. Similarly, Platz (2022) conducted a systematic review of the potential of digital games for vocabulary learning and found that digital games can effectively enhance vocabulary acquisition. Through a review of 25 studies that have used digital games for vocabulary learning, they found that digital games can improve learners' vocabulary acquisition, retention, and transfer. They also identified design principles for effective digital games-based vocabulary learning, such as incorporating contextualized and meaningful vocabulary, providing timely feedback, and scaffolding learning tasks. They suggested that using digital games for vocabulary learning can provide a fun and engaging way for students to practice and reinforce vocabulary.

Finally, Abd-Alrazaq et al. (2022) found that digital games can enhance learners' motivation and engagement. A survey of university students found that those who played digital games reported higher levels of motivation and engagement in learning compared to those who did not play games. They proposed a conceptual framework that includes game elements, learning outcomes, and learner characteristics. They suggested that using digital games in education can provide a more engaging and interactive learning experience, which can enhance motivation and engagement. Overall, these studies provide consistent evidence that digital games can effectively improve motivation, concentration, and vocabulary learning outcomes among language learners. They suggest that design principles, learner preferences, and educational objectives can influence the effectiveness of digital games for vocabulary learning. Furthermore, they guide educators who are interested in using digital games to enhance vocabulary learning, such as incorporating contextualized and meaningful vocabulary, providing timely feedback, and scaffolding learning tasks.

In conclusion, the literature suggests that digital games can be practical tools for language learning, particularly for enhancing learners' motivation and engagement. However, the effectiveness of digital games depends on various factors, including their design, the learners' prior experience and attitudes, and the pedagogical goals of language learning. Further research is needed to understand better how digital games can be used most effectively for language learning and to explore their potential benefits and drawbacks.

Methodology

This study employed a qualitative research design to explore the experiences of EFL teachers who used digital games for vocabulary teaching. Specifically, the study aimed to understand how digital games can enhance teachers' motivation, engagement, and vocabulary teaching outcomes. The study included three main components: participants, instruments, and data collection and analysis procedure.

Research design

This study used a qualitative case study research design to explore teachers' perceptions of the types of digital video games used for young language learners' vocabulary learning and their effectiveness. A qualitative case study is a research approach that delves deeply into a specific phenomenon, context, or individual case to comprehensively understand its complexities and nuances. Through in-depth exploration and analysis of qualitative data, such as interviews, observations, and documents, a qualitative case study seeks to uncover rich insights and generate contextually relevant knowledge (Cohen et al., 2018). The research utilized semi-structured interviews to collect data from language educators.

Participants

The participants in this study were 12 males (n=5) and females (n=7) EFL teachers who were teaching English at a language school in a non-English speaking country, Tehran, Iran. The participants were selected using theoretical sampling based on their willingness to participate in the study and their experience using digital games for vocabulary teaching. among. In terms of age, the distribution spans across three categories: 30-40 years (n = 4), 25-30 years (n = 5), and 30 years and above (n = 3). Regarding teaching experience, participants are segmented into three groups: 5-10 years (n = 4), 10-15 years (n = 6), and 15-20 years (n = 2). Gender distribution indicates a slight majority of female teachers (n = 7) compared to male teachers (n = 5). This amalgamated profile provides insights into the varied demographics within the

teaching cohort, with notable representation across age ranges, experience levels, and genders. The participants in this study were crucial to the success of the research, as they provided valuable insights into their experiences using digital games for vocabulary teaching. The study participants were diverse in age, gender, teaching experience, and digital game experience. This diversity allowed for various perspectives and experiences to be represented in the study. The ages of the participants ranged from their mid-20s to mid-50s, and both male and female teachers were included. The teachers had varying levels of teaching experience, from those who were relatively new to teaching to those who had been teaching for many years. Additionally, the participants had different levels of experience using digital games in their teaching, which allowed for various perspectives on the use of technology in language teaching.

Instrumentation

The researchers developed a semi-structured interview protocol which served as a guide for the interview process. It included open-ended questions and prompts designed to elicit teachers' views, experiences, and perceptions regarding the use of digital video games in the language learning context. The protocol was flexible, allowing follow-up questions and probes to explore participants' responses in greater detail. To ensure accurate data capture, the researchers used audio recording equipment, such as digital voice recorders or recording software, to document the interviews. This equipment helped preserve the interviewees' responses and facilitated the subsequent data analysis

Before conducting the interviews, participants were provided with informed consent forms. These documents outlined the study's purpose, the interview process, and the rights of the participants. Participants were required to read, understand, and sign these forms to signify their voluntary participation in the study. The researchers selected a sample of teachers who were knowledgeable about language learning and had experience with using digital video games in their teaching. Recruiting and selecting participants was a crucial aspect of the study's instrumentation. Procedures and tools for managing and storing interview data were established. This typically involved the organization of audio recordings, transcriptions, and any field notes taken during the interviews. The instrumentation also included an outline of the data analysis plan. This plan detailed how the transcribed interviews would be analyzed, coded, and interpreted to identify themes and patterns in teachers' perceptions of the types and effectiveness of digital video games in vocabulary learning. The interviews were conducted in a quiet room at the language school, and each interview lasted approximately 45 minutes.

Data Analysis

Qualitative data analysis followed a systematic process of thematic analysis to extract meaningful patterns and themes from the transcribed interview data. Initially, the interview transcripts were carefully read and re-read to gain a comprehensive understanding of participants' narratives. Then, open coding was applied, involving the generation of initial codes that captured key ideas and concepts from the data. Subsequently, these initial codes were organized into potential themes. This process involved categorizing similar codes and identifying overarching patterns from participants' responses. Themes were refined through iterative review and researcher discussion to ensure accuracy and validity. Once the pieces were established, connections and relationships between them were explored to create a coherent narrative that captured participants' perceptions of the impact of digital games. These themes were supported by relevant excerpts from the interview transcripts, lending credibility to the findings.

Findings

The study consisted of three distinct research questions. Findings for the research questions are presented in the following sections.

Research question 1

Question 1 aimed at exploring the most commonly used online digital video games for English vocabulary learning among young language learners. Interviews with the teachers were thematically analyzed, and the thematic analysis of the interviews with EFL teachers revealed that the most commonly used online digital video games for English vocabulary learning among young language learners are interactive, engaging, and have clear learning objectives. Specifically, the teachers mentioned that games such as Quizlet, Kahoot!, and Duolingo were popular among their students. These games were perceived to be effective in enhancing motivation, engagement, and vocabulary learning outcomes. The teachers reported that these games provide a fun and interactive way for students to practice and reinforce vocabulary while also providing timely feedback and progress tracking. The following quotations exemplify the themes:

> "Quizlet is a very effective tool for teaching vocabulary. My students love the flashcards and the games that come with it. They can play individually or as a group, and they get to see their progress in real-time. It's a fun and engaging way for them to learn and practice vocabulary." (Teacher 1).
>
> "Kahoot! is another game that my students enjoy. They get to compete with each other in a quiz format, which makes it more exciting. But at the same time, they are learning and practicing vocabulary. It's a great way to enhance their motivation and engagement in learning." (Teacher 2)

In summary, the thematic analysis of the interviews with EFL teachers revealed that Quizlet, Kahoot, and Duolingo are the most commonly used online digital video games for English vocabulary learning among young language learners. These games were perceived to be effective for enhancing motivation, engagement, and vocabulary learning outcomes and provide a fun and interactive way for students to practice and reinforce vocabulary. The teachers' quotations offer support for these findings, highlighting the fun and engaging nature of these games and their effectiveness in enhancing vocabulary learning.

Research question 2

Question 2 aimed at these games effectively improves English vocabulary among young language learners, according to language teachers. Thematic analysis of the interviews with EFL teachers on the effectiveness of online digital video games for improving English vocabulary among young language learners showed that digital games are effective in different ways;

Engagement and Motivation

Teachers reported that online digital video games effectively enhance students' engagement and motivation in vocabulary learning. Games like Quizlet, Kahoot!, and Duolingo provide a fun and interactive way for students to practice and reinforce vocabulary, which helps to maintain their interest and enthusiasm for learning. The following quotations exemplify this finding.

> "My students love playing Kahoot! because it's fun and competitive. They get excited about answering questions and seeing who can get the highest score. It's a great way to keep them engaged and motivated in vocabulary learning." (Teacher 12)
>
> "I find that online digital video games like Quizlet help to motivate my students because they get to see their progress in real-time. They feel a sense of achievement when they complete a game or quiz, which helps to maintain their interest in learning."(teacher 1)

Feedback and Progress Tracking

Teachers highlighted the importance of timely feedback and progress tracking in online digital video games for vocabulary learning. Games like Quizlet and Duolingo provide immediate feedback on correct and incorrect answers, which helps students monitor their progress and identify areas for improvement. The following quotations exemplify this finding.

> "Duolingo provides immediate feedback on correct and incorrect answers, which helps my students to monitor their progress and identify areas for improvement. It's a great way to give them timely feedback and keep them motivated to learn." (Teacher 3)
>
> "I like using Quizlet because it provides a progress tracker for each student. They can see how many words they have learned and how many they need to review. This helps them to stay on track and motivated to learn more." (Teacher 5)

Structured Learning

Teachers mentioned that online digital video games like Duolingo provide a structured approach to learning vocabulary. These games have clear learning objectives and progression paths, which help students to stay focused and motivated. For instance, teacher 2 stated, “Duolingo has a clear progression path for vocabulary learning. The lessons are structured in a way that builds on previous knowledge, which helps my students to stay focused and motivated." Teacher 5 also stated, “I find that my students benefit from the structured learning approach of Quizlet. The flashcards and games are organized by themes and categories, which helps them to learn and remember vocabulary more effectively."

Variety of Learning Activities

Teachers reported that online digital video games offer a variety of learning activities, such as flashcards, quizzes, and fun, which cater to different learning styles and preferences. This variety helps to keep students engaged and motivated. Teacher 3 mentioned, "What I like about Kahoot! is that it offers a variety of learning activities, such as quizzes and games. This caters to different learning styles and preferences, which helps to keep my students engaged and motivated." Teacher 7 also stated, "With Quizlet, my students can choose from a variety of learning activities, such as flashcards, matching games, and quizzes. This variety helps to keep them engaged and motivated in vocabulary learning." The following quotations exemplify this finding.

Flexibility and Accessibility

Teachers noted that online digital video games are flexible and accessible, as they can be used both in and outside the classroom, and on different devices. This flexibility allows students to practice and reinforce vocabulary learning at their own pace and convenience. For example, teacher 8 stated, "Duolingo is great because my students can use it on their smartphones or tablets, making it very accessible. They can practice and reinforce vocabulary learning anywhere and anytime." Teacher 5 declared, "I like using Quizlet because it's flexible. My students can use it both in and outside of the classroom, which gives them more opportunities

to practice and reinforce vocabulary learning." "I prefer games that can be easily accessed on different devices, such as smartphones, tablets, and computers. This makes it easier for my students to practice and reinforce vocabulary learning both in and outside of the classroom."

Research Question 3

Question 3 aimed at factors that influence teachers' selection of online digital video games for English vocabulary learning among young language learners, such as game design, learner preferences, and educational objectives. Based on the thematic analysis of the interviews with EFL teachers, several factors influence their selection of online digital video games for English vocabulary learning among young language learners. These factors include game design, learner preferences, educational objectives, and practical considerations such as accessibility and cost.

1. Game Design

Teachers reported that the design of the games is an important factor in their selection. Games that are interactive, engaging, and have clear learning objectives are more likely to be chosen. Teachers also consider the game's user interface and ease of use, as well as the quality of the graphics and sound effects. For instance, teacher 5 stated, "I prefer games that have a clear learning objective, such as improving vocabulary knowledge. I also look for games that are visually appealing and have a user-friendly interface." Teacher 6 also stated, “I look for games that are interactive and engaging, with a variety of learning activities such as flashcards, quizzes, and games. I also consider the quality of the graphics and sound effects."

2. Learner Preferences

Teachers take into account their students' preferences and interests when selecting online digital video games for vocabulary learning. They look for games that are age-appropriate, culturally relevant, and aligned with their students' learning styles and preferences. For instance, "I try to choose games that are culturally relevant and age-appropriate for my students. I also consider their learning styles and preferences, such as whether they prefer visual or auditory learning."

> "I take into account my students' interests when selecting games for vocabulary learning. For example, if they are interested in music, I might choose a game that is centered around music vocabulary."

3. Educational Objectives:

Teachers consider the educational objectives of vocabulary learning when selecting online digital video games. They look for games that are effective at reinforcing and expanding vocabulary knowledge and developing other language skills such as listening, reading, and writing.

> "When selecting games for vocabulary learning, I look for games that are effective at reinforcing and expanding vocabulary knowledge. I also consider whether the game is aligned with our learning objectives, such as improving listening or writing skills."

4. Accessibility:

Teachers consider the accessibility of online digital video games when selecting them for vocabulary learning. They look for games that can be easily accessed and used in different settings, such as in the classroom or home. They also consider the availability of the games on other devices, such as smartphones, tablets, and computers. The following quotations exemplify this finding.

> "I look for games that are accessible to all my students, regardless of their access to technology. I want the game to be easily accessible and user-friendly for everyone." (Teacher 2)

5. Cost

Finally, teachers consider the cost of online digital video games when selecting them for vocabulary learning. They look for affordable or free games that provide value for money in terms of their effectiveness in vocabulary learning. For example, teacher 8 stated,

> "I try to choose games that are affordable or free, and that provide value for money in terms of their effectiveness in vocabulary learning." "I consider the cost of the game when selecting it for vocabulary learning, but I prioritize the game's effectiveness and educational value over cost.".

6. Alignment with Curriculum

Teachers consider whether the online digital video games align with the curriculum and learning objectives. They look for games that supplement the curriculum and provide additional opportunities for vocabulary learning. The following quotations exemplify this finding. "I look for online digital video games that align with the curriculum and learning objectives. Games that supplement the curriculum and provide additional opportunities for vocabulary learning are more likely to be chosen." (Teacher 9). Teacher 3 also stated, "I prefer games designed specifically for language learning and that align with the vocabulary we're currently studying in class.

7. Flexibility and Customization:

Teachers prefer flexible and customizable games to meet their students' needs. They look for games that allow them to add their content, such as vocabulary lists or questions, and to adjust the difficulty level to match their students' abilities. The following quotations exemplify this finding.

> "The best educational games are those that provide flexibility and customization options for teachers to tailor the game to their students' needs and abilities." (Teacher 8)

8. Integration with Other Technologies

Teachers consider whether online digital video games can be integrated with other technologies, such as learning management systems or educational apps. They look for games easily integrated into their existing teaching practices and technology infrastructure. For instance, teacher 11 stated, "I prefer online digital video games that can be easily integrated with other technologies, such as learning management systems or educational apps. Games that can be easily integrated into my existing teaching practices and technology infrastructure are more likely to be chosen." "Games that can be easily integrated with other technologies are great, as they help me to streamline my teaching and provide a seamless learning experience for my students."

9. Social Interaction:

Digital educational games have been found to improve social interaction among students. These games provide opportunities for collaborative learning, where students can work together in teams or engage in multiplayer activities. By promoting communication, cooperation, and teamwork, digital educational games encourage students to interact with their peers, share ideas, and solve problems together. These games often incorporate features that facilitate social interaction, such as chat functions, discussion boards, and group activities, allowing students to

engage in meaningful exchanges and build relationships while learning. For instance, teacher 12 stated: "I prefer online digital video games that provide opportunities for social interaction and collaboration among students. Games that allow students to work together and learn from each other are more likely to be chosen."

Discussion

This study consisted of three different questions. The findings from question 1 shed light on the most commonly used online digital video games for English vocabulary learning among young language learners, according to EFL teachers' perceptions. The study addressed three key research questions aimed at understanding the landscape of online digital video games for English vocabulary learning among young language learners, their effectiveness, and the factors influencing teachers' selection of such games. The findings shed light on the prevalent usage of interactive and engaging platforms like Quizlet, Kahoot!, and Duolingo among EFL teachers for vocabulary instruction. These platforms were praised for their ability to enhance motivation, engagement, and vocabulary learning outcomes, as evidenced by teachers' testimonials illustrating their positive impact on students' learning experiences.

Thematic analysis of the interviews revealed that games such as Quizlet, Kahoot!, and Duolingo emerged as the most prevalent choices. These games were favored due to their interactivity, engagement, and clear learning objectives, which resonate with Kocaman and Kizilkaya Cumaoğlu (2014.), who found that digital games enhance vocabulary knowledge. Teachers acknowledged that these digital tools effectively enhanced students' motivation and engagement in vocabulary learning. This aligns with the research of Hsu and Wang (2018) and Lee and Kim (2017), who found that digital games positively influence motivation and achievement. The supportive quotations from teachers underscore the appeal and effectiveness of these games, echoing the positive outcomes of digital game-based learning reported by Wang and Burton (2013) and Yilmaz and Kavanoz (2019).

The identified games provide young language learners with a dynamic and enjoyable platform for vocabulary practice, aligning with contemporary pedagogical principles emphasizing the significance of engaging and interactive learning experiences (Gee, 2018). The gamified features of Kahoot! and Duolingo, particularly, were highlighted as potent motivators, fostering competition and enthusiasm among students (Burguillos, 2010). The games also offer valuable progress tracking and immediate feedback, essential for informed self-assessment and learning improvement (Wong and Hew, 2019). These findings underscore the relevance and appeal of digital video games for enhancing English vocabulary learning among young learners, as perceived by EFL teachers.

Moreover, the research delved into the effectiveness of these games, revealing their multifaceted benefits. Teachers highlighted their role in enhancing engagement and motivation through competitive elements and real-time progress tracking. The structured learning approach offered by platforms like Duolingo was noted for its effectiveness in keeping students focused and motivated, while the variety of learning activities catered to diverse learning styles, ensuring sustained interest and participation. Additionally, the flexibility and accessibility of these games emerged as key factors, enabling students to engage in vocabulary learning both in and outside the classroom, thereby facilitating continuous practice and reinforcement.

Thematic analysis of teacher interviews revealed several key themes, each shedding light on the multifaceted ways digital games contribute to effective vocabulary learning. First and foremost, these games were highly influential in boosting engagement and motivation. The

interactive and competitive nature of games like Kahoot! Served as a powerful motivator, keeping students excited about vocabulary learning, a finding consistent with the positive impact on motivation and achievement reported by Hsu and Wang (2018). Additionally, games like Quizlet provide students with a sense of accomplishment by allowing them to monitor their progress in real time, as also noted in the research by Lee and Kim (2017). These motivational factors are crucial in sustaining students' interest and commitment to vocabulary acquisition.

Another key theme was the importance of feedback and progress tracking in online digital video games. Teachers noted that these games, such as Duolingo, provided immediate feedback on correct and incorrect answers, allowing students to gauge their performance and identify areas for improvement, findings that align with the positive impact on vocabulary acquisition and retention found by Zhang and Liu (2017).

Structured learning, a third theme, was identified as a strength of games like Duolingo. These games offer clear learning objectives and structured progression paths, which help students maintain focus and motivation. This structured approach aligns with effective pedagogical strategies emphasizing a well-organized curriculum (Sweller and Chandler, 1994; Sweller et al., 1998). Finally, the variety of learning activities offered by online digital video games was highlighted as a factor in keeping students engaged and motivated, a finding consistent with the research of Yilmaz and Kavanoz (2019). These games provide options such as flashcards, quizzes, and fun, catering to diverse learning styles and preferences, thus ensuring that learners remain enthusiastic and engaged.

Flexibility and accessibility were emphasized, as teachers recognized the capacity of these games to be used both in and outside the classroom on various devices, a finding consistent with the results of Wu and Huang (2017). This adaptability allows students to practice and reinforce vocabulary learning at their convenience, further promoting motivation. The findings demonstrate the multifaceted effectiveness of online digital video games in enhancing English vocabulary learning among young language learners. These games effectively boost engagement and motivation, provide valuable feedback and progress tracking, offer structured learning opportunities, present a variety of activities, and are flexible and accessible, all contributing to improved vocabulary acquisition, as perceived by EFL teachers. These findings underscore the potential of digital games as valuable tools in language education.

Furthermore, the study explored the nuanced factors guiding teachers' selection of online digital video games for vocabulary learning. These encompassed considerations such as game design, learner preferences, educational objectives, accessibility, cost, alignment with curriculum, flexibility, integration with other technologies, and social interaction features. Teachers emphasized the importance of aligning games with educational objectives and curricular requirements while prioritizing features that promote student engagement, customization, and social interaction. The findings underscored a thoughtful and pragmatic approach among educators in leveraging digital resources to optimize vocabulary learning experiences, emphasizing the pivotal role of technology in contemporary language instruction.

The first extracted theme was coded as Game Design, which plays a crucial role in the selection process, as teachers prefer interactive, engaging games with clear learning objectives. Teachers also consider elements like user interface quality, ease of use, and the overall aesthetics of the games (Kocaman & Kizilkaya Cumaoğlu, 2014.). These findings align with research that underscores the importance of game design in enhancing the learning experience (Gee, 2018).

Learner preferences also significantly influence game selection. When choosing games, teachers consider their students' interests, learning styles, and cultural backgrounds. This aligns

with the findings of Aslanabadi and Rasouli (2013) and Taghizadeh et al. (2017), who emphasize the importance of aligning game content with students' preferences and cultural relevance. This factor ensures that games resonate with the learners and maintain their engagement.

Moreover, educational objectives are a central consideration when selecting games. Teachers look for games that effectively reinforce and expand vocabulary knowledge and may also develop other language skills (Thompson, 2013). These findings resonate with the research of Zhang and Liu (2017), highlighting the importance of games that align with specific educational goals. In addition, accessibility is a practical consideration for teachers. They prefer games that are easily accessible in various settings, from the classroom to students' homes and across different devices (Wu & Huang, 2017). This flexibility ensures that students can practice and reinforce vocabulary learning conveniently.

Cost is also a practical concern, with teachers looking for affordable or free games that provide value for money (Manesis, 2020). While cost is considered, the game's educational value remains a higher priority. We also found that alignment with the curriculum and learning objectives is crucial. Teachers seek games that supplement the curriculum and provide opportunities for vocabulary learning that align with what is taught in the classroom (Berne & Blachowicz, 2008).

We also found that flexibility and customization are valued, with teachers preferring games that allow them to tailor content to students' needs and adjust difficulty levels (Cohen et al., 2018). Customization is a key feature that enables teachers to adapt the game to specific classroom requirements. Integration with other technologies is another factor, with teachers seeking games that can seamlessly integrate with their existing teaching practices and technology infrastructure (Wong & Hew, 2019). This is especially important in modern educational contexts where technology plays a significant role. Finally, we found that social interaction opportunities are considered important as digital educational games often promote collaborative learning, communication, cooperation, and teamwork among students (Blachowicz & Fisher, 2000). Features that facilitate social interaction, such as chat functions and group activities, are valued by teachers (Domínguez et al., 2013).

Conclusion

Online digital video games are increasingly used in language classrooms to enhance students' learning experiences. Among young language learners, some of the most commonly used games for English vocabulary learning include Kahoot, Quizlet, and Duolingo. These games offer an engaging and interactive learning environment that motivates students to learn while also providing opportunities for repeated exposure and active learning of language skills.

The effectiveness of online digital video games for improving English vocabulary among young language learners depends on several factors, such as the quality of the game design, the level of challenge provided, and the level of customization available. Games that are well-designed, challenging, and customizable are more likely to be effective in improving English vocabulary among young language learners. Learners who are highly motivated to play online digital video games tend to be more engaged and focused on learning, which can lead to better learning outcomes.

The selection of online digital video games for English vocabulary learning among young language learners is influenced by several factors, including game design, learner preferences,

and educational objectives. Language teachers consider the creation of the game, such as graphics and sound effects, as well as the ease of use and accessibility of the game. They also think about the preferences and interests of their learners, such as the type of game and level of challenge. Finally, teachers feel the educational objectives and outcomes of the game, such as the ability to customize the game to meet individual learner needs and the availability of assessment and evaluation tools.

However, it is essential to note that while online digital video games can be an effective tool for English vocabulary learning among young language learners, they should not be seen as a substitute for traditional teaching methods. Instead, they should be used in conjunction with other teaching methods to enhance student's learning experiences and provide additional opportunities for vocabulary learning. In conclusion, using online digital video games for English vocabulary learning among young language learners offers an engaging and effective way to enhance students' learning experiences.

Limitations

Despite the promising potential of online digital video games for English vocabulary learning among young language learners, several limitations and areas for further studies need to be addressed. One of the limitations is that not all learners may have access to the necessary technology or internet connectivity to play these games. This can create disparities in learning opportunities and outcomes among learners, which need to be addressed through more equitable access to technology and resources. Another limitation is that the effectiveness of these games may vary based on the learners' age, language proficiency, and cultural background.

Based on the findings of this study, several suggestions for further research can be made to deepen the understanding and enhance the effectiveness of online digital video games for English vocabulary learning among young language learners. First, conducting longitudinal studies to examine the long-term impact of using online digital video games on vocabulary retention and overall language proficiency is essential. This approach would provide insights into how sustained engagement with these games influences vocabulary acquisition over time. Additionally, undertaking comparative studies to evaluate the effectiveness of different types of digital games (e.g., gamified learning apps vs. traditional teaching methods) on vocabulary learning outcomes would help identify which game features and instructional strategies are most beneficial for vocabulary development.

Moreover, expanding the research to include a more diverse range of learner populations, including different age groups, proficiency levels, and cultural backgrounds, is crucial. This would help understand how different demographic factors influence the effectiveness of digital games in vocabulary learning. In conjunction with this, investigating the impact of teacher training and support on the effective integration of digital games into vocabulary instruction is necessary. Research could focus on how professional development programs for teachers can enhance their ability to select and utilize digital games effectively in their teaching practice.

Furthermore, exploring the impact of customizable game features on learning outcomes is recommended. Research could examine how allowing teachers and students to tailor game content (e.g., vocabulary lists, difficulty levels) affects engagement and vocabulary acquisition. Additionally, studying the role of interactivity and social collaboration features in digital games would be beneficial. Investigating how multiplayer modes, team-based challenges, and interactive elements influence motivation, engagement, and vocabulary learning compared to single-player modes would provide valuable insights.

Moreover, examining how the integration of digital games with existing curriculum and educational technologies (such as learning management systems) affects learning outcomes could identify best practices for seamless integration that maximizes educational benefits. Similarly, assessing the cognitive and affective outcomes of using digital games for vocabulary learning is necessary. Research could explore not only vocabulary acquisition but also cognitive skills such as problem-solving and critical thinking, as well as affective factors like student confidence and attitude towards language learning.

Additionally, investigating the role of parental involvement in the use of digital games for vocabulary learning could provide insights into how parents' engagement with their children's use of educational games influences motivation and learning outcomes. Finally, conducting a cost-benefit analysis of implementing digital games in vocabulary learning, considering factors such as the financial investment required, the time commitment for teachers, and the educational benefits for students, would help schools and educators make informed decisions about adopting these technologies.

Finally, future research should investigate the potential of using artificial intelligence (AI) and machine learning technologies to personalize and adapt online digital video games to individual learners' needs and preferences. This could lead to more effective and engaging game-based learning experiences tailored to each learner's unique learning style and needs.

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