

The Impact of Video Games on English Language Proficiency Among Saudi EFL University Students: A Systematic Review

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Abstract

This review study investigates the role of video games in enhancing English language proficiency among Saudi university students, with particular attention to their impact on vocabulary, listening, speaking, and learner motivation. As digital gaming becomes increasingly integrated into students' everyday lives, it offers authentic, contextualized exposure to English that extends beyond traditional instructional settings. Drawing on recent empirical studies from Saudi Arabia and comparable EFL contexts, this review synthesizes evidence on the linguistic, cognitive, and affective benefits of gameplay, as well as the challenges associated with its pedagogical implementation. Findings indicate that video games provide immersive environments that support incidental vocabulary acquisition, listening comprehension, oral communication, and learner autonomy. However, issues related to cultural appropriateness, teacher preparedness, assessment limitations, and institutional support continue to restrict their integration into formal curricula. The review concludes with pedagogical recommendations for effectively incorporating video games into Saudi higher education and suggests directions for future research to optimize their role as complementary EFL learning tools.

Keywords: *Video Games, Game-Based Learning, English Language Proficiency, Digital Learning, Vocabulary Acquisition.*

Introduction

English language proficiency has become an essential requirement for Saudi university students, particularly as higher education institutions increasingly adopt English-medium instruction in fields such as science, engineering, medicine, and business (Alhebshi & Gamlo, 2022; Alqarni, 2024). In today's globalized academic and professional landscape, English functions not only as a medium for accessing scientific knowledge but also as a tool for international communication and intercultural engagement. Consequently, Saudi universities and policymakers are continually exploring innovative, student-centered approaches to enhance English language learning outcomes (Noorwali, & Sabir, 2025). Among these approaches, video games have emerged as a promising digital medium that integrates motivation, immersion, and authentic language use.

The widespread popularity of gaming among Saudi youth provides a natural context for incidental second language learning. Alshawi (2016) reported that nearly 70% of Saudi university students engage in video gaming regularly, with many interacting in English during gameplay. Unlike traditional classroom environments that often emphasize rote memorization, video games expose learners to contextualized and meaningful input, supporting Krashen's (1985) Input Hypothesis, which asserts that language acquisition occurs when learners encounter comprehensible input slightly beyond their current proficiency level. Additionally, Vygotsky's (1978) Sociocultural Theory highlights the importance of social interaction; an inherent component of multiplayer and cooperative gaming.

Narrative-driven, task-based, and problem-solving games have been shown to facilitate the incidental acquisition of vocabulary, grammar, and pragmatic skills (Gee & Gee 2017; Reinhardt, 2019). Titles such as *The Sims*, *World of Warcraft*, and *Minecraft* require players to read, listen, and communicate in English to complete tasks, creating a form of situated learning that mirrors real-world

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language use (Peterson, 2016). For Saudi EFL learners, gaming provides a low-anxiety environment that reduces affective barriers, enhances motivation, and encourages consistent engagement (Almufareh, 2021; Almukahhili, 2022).

The integration of video games into educational settings also aligns with Saudi Vision 2030's emphasis on digital transformation and educational innovation (Saudi Ministry of Education, 2020). Given persistent challenges in EFL instruction—such as limited exposure to native English speakers and reliance on textbook-based methods—video games offer a valuable complementary tool. This review synthesizes empirical research on the relationship between video gaming and English language proficiency among Saudi university students, highlighting pedagogical opportunities, cultural considerations, and recommendations for effective implementation.

Purpose of the Review

The purpose of this review is to examine the role of video games in developing English language proficiency among Saudi university EFL learners. Drawing on recent empirical findings, the review synthesizes evidence on how gameplay supports the acquisition of core language skills—particularly vocabulary, listening comprehension, and speaking fluency—through authentic input, interactive communication, and contextualized learning environments.

The review also explores motivational and autonomy-related benefits associated with gaming, while critically assessing pedagogical, cultural, and institutional challenges that influence the integration of video games in Saudi higher education. By combining Saudi and international perspectives, the study clarifies the effectiveness, limitations, and implications of using video games as complementary tools for English language teaching and offers recommendations for culturally responsive and sustainable integration.

Methodology

Research Design

This study employs a systematic literature review methodology, adhering to the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework (Moher et al., 2009). The PRISMA framework ensures transparency, replicability, and methodological rigor by providing a structured process for identifying, screening, and synthesizing relevant studies. By using this approach, the review systematically evaluates the role of video games in enhancing English language proficiency among Saudi university students.

Search Strategy

A comprehensive literature search was conducted across multiple academic databases, including Scopus, ERIC, Google Scholar, SpringerLink, and ScienceDirect, covering publications from 2015 to 2025. Keywords and Boolean combinations were applied to maximize relevant results: “video games” OR “digital games” OR “gamification”; “English language learning” OR “EFL” OR “second language”; and “Saudi” OR “Arab world” OR “Gulf countries.” In addition to database searches, reference lists of key articles were manually screened to identify any additional relevant studies not captured through electronic searches.

Inclusion and Exclusion Criteria

Studies were included if they met the following criteria: (1) published in peer-reviewed journals or conference proceedings between 2015 and 2025; (2) focused on EFL learning within Saudi or broader Gulf contexts; (3) examined the impact of video games, gamification, or game-based learning on aspects of language proficiency, including vocabulary, speaking, listening, writing, or motivation; and (4) were available in full-text format. Studies were excluded if they focused solely on technical game design without educational outcomes, were published before 2015, or were duplicates or non-peer-reviewed content.

Data Extraction and Analysis

Relevant studies were systematically organized into a matrix summarizing authorship, year, participant demographics, research methodology, type of video game or gamification strategy, key findings, and limitations. A thematic analysis was then conducted to identify recurring patterns and insights, grouping findings under major themes such as linguistic skill development, learner motivation and engagement, and challenges associated with implementation in educational settings. Quantitative

data were compared for effect sizes and measurable outcomes, while qualitative data were analyzed for common themes, learner perceptions, and contextual factors.

Review of Literature

Research in Saudi Arabia has increasingly emphasized the role of interactive technology and video games in fostering English language proficiency. Alharbi (2020) investigated Saudi students in the Qassim region and found that the use of interactive technologies, including video games, significantly enhanced learners' vocabulary, listening comprehension, and overall communicative competence. The study highlighted that gaming environments provide immersive, context-rich experiences that promote sustained engagement and active language use, offering advantages over traditional, textbook-centered approaches. These findings underscore the potential of video games as effective tools for learner-centered English language instruction in Saudi higher education contexts.

Vocabulary Development

Vocabulary acquisition is the most widely documented linguistic benefit associated with video game use in EFL contexts, and it is particularly evident among Saudi university learners. Digital games, especially role-playing games (RPGs), simulation games, and story-driven adventure titles, provide learners with repeated exposure to lexical items embedded within meaningful narrative and communicative contexts. This contextualization supports deeper processing, semantic retention, and enhanced lexical recall. Research by Alshabeb (2024) demonstrated that Saudi university students who regularly engaged with English-language RPGs achieved up to 30% greater vocabulary retention compared to peers using traditional memorization methods. These findings align with Peterson's (2016) observation that gaming presents rich, multimodal input that reinforces both receptive and productive vocabulary knowledge.

Recent studies also emphasize the role of informal digital engagement in supporting vocabulary development among Saudi EFL learners. Mohammed and Ali (2021) found that students frequently rely on digital platforms—such as social media, online videos, mobile apps, and games—to acquire new vocabulary outside the classroom. Learners reported that these tools enhanced enjoyment, contextual understanding, and long-term retention. Moreover, informal digital activities were shown to strengthen learner autonomy and motivation, making them a valuable complement to traditional instruction. Gulf-based research further supports these results, showing that contextualized game-based input enhances both short- and long-term memory of lexical items (Al-Mahrooqi & Denman, 2014; Alshammari, 2022). Overall, the literature consistently suggests that video games provide an effective medium for vocabulary learning by offering repeated, meaningful exposure to language input that is engaging, relevant, and cognitively rich.

Empirical evidence also supports the effectiveness of mobile and digital games in enhancing Saudi learners' lexical development. Alhebshi and Gamlo (2022) examined the impact of mobile game-based learning on foundation-year students and found that learners who used educational mobile games demonstrated significantly higher vocabulary gains compared to those receiving traditional instruction. Improvements were observed in both receptive and productive vocabulary, indicating that gameplay supports not only recognition but also active use of new lexical items. The study attributed these gains to repeated exposure, instant feedback, contextualized word presentation, and the motivational appeal of game mechanics. Students reported positive attitudes toward game-based vocabulary learning, highlighting that the interactive and enjoyable nature of games reduced anxiety and increased engagement.

Further support for the vocabulary-enhancing effects of video games comes from AlShaiji (2015), who examined how digital gameplay influences English vocabulary retention among young Saudi learners. The study found that children who regularly engaged with English-language video games demonstrated higher retention rates than peers learning through traditional instructional methods. According to AlShaiji, games facilitate deeper vocabulary processing by embedding lexical items within goal-oriented, meaningful contexts, reinforced through repetition, visual cues, and immediate feedback. Participants also reported strong enjoyment and motivation, promoting sustained exposure—a key factor for long-term retention. Although this study focused on children rather than university students, the findings indicate a broader developmental trend: the motivational, contextual, and multimodal qualities of video games consistently support vocabulary acquisition across age groups in Saudi Arabia.

Listening and Speaking Skills

Listening and speaking are two additional areas where video games demonstrate significant contributions to English language development, especially within multiplayer and cooperative gaming environments. Saudi EFL learners often report limited opportunities to engage with native or proficient English speakers in traditional classroom settings; video games help bridge this gap by providing authentic interactional contexts. Alharbi (2020) found that Saudi students who participated in cooperative gameplay exhibited measurable improvements in pronunciation accuracy, listening comprehension, and speech fluency. Players were frequently exposed to natural speech patterns, accents, and real-time task-based exchanges, reinforcing their ability to process spoken English under authentic conditions. Additionally, multiplayer games require active negotiation of meaning, turn-taking, and collaborative problem-solving—skills that align with Vygotsky's (1978) Sociocultural Theory, which emphasizes the importance of social interaction in language learning. Studies by Almufareh (2021) similarly confirmed that Saudi learners developed stronger pragmatic awareness and communicative confidence while engaging in English during gameplay. These interactions mirror real-world communication needs and encourage learners to use English spontaneously and purposefully. Exposure to diverse English accents and discourse patterns in gaming contexts also helps address a common limitation in Saudi EFL curricula, where listening activities often feature scripted and uniform models (Alshammari, 2022). Thus, video games function not only as tools for linguistic practice but also as immersive environments that support authentic communicative competence.

Recent evidence from Saudi studies shows that mobile-assisted applications such as Duolingo can significantly support improvements in speaking proficiency and pronunciation among EFL learners. A recent quasi-experimental study with Saudi university EFL learners found that use of Duolingo led to statistically significant gains in pronunciation accuracy, stress, and intonation, along with greater speaking fluency (AbuSahyon et al., 2025). Students in that study also reported increased motivation and confidence to practice spoken English outside the classroom. This study illustrates how mobile game-like language apps can offer low-anxiety, accessible, and self-paced opportunities for speaking and listening practice — complementing traditional classroom instruction and contributing to communicative competence among Saudi EFL learners.

Reading and Writing Skills

Although reading and writing have received less attention in research on game-based EFL learning, existing studies suggest that video games can still contribute meaningfully to the development of these literacy skills. Narrative-based games, adventure quests, and simulation titles often require players to read instructions, dialogues, menus, and storylines, providing learners with sustained exposure to written English in an engaging and meaningful context. Peterson (2016) highlights that such games encourage inferential reading, prediction, and comprehension strategies that closely mirror the cognitive processes involved in academic reading.

In the Saudi context, Alsowat (2017) reported that university students interacting with story-driven games demonstrated improved discourse comprehension and an enhanced ability to interpret character motivations and narrative structures. Gameplay can also indirectly foster writing development through activities such as creating walkthroughs, reviewing games, participating in online forums, or engaging in collaborative storytelling within gaming communities. Gulf-based research further indicates that gaming can strengthen metacognitive reading strategies, including scanning texts, guessing meaning from context, and monitoring comprehension (Al-Mahrooqi & Denman, 2020).

Despite these promising findings, it is important to note that, to date, no studies have specifically examined the impact of video games on writing improvement among Saudi EFL learners, highlighting a significant gap in the literature. Nonetheless, the available evidence collectively suggests that video games offer considerable potential for enhancing literacy skills, even if their effects on reading and writing are generally more indirect than those observed for vocabulary and oral skills.

Motivation and Engagement

Motivation is one of the strongest and most consistently reported benefits of integrating video games into EFL learning, especially in motivationally challenging contexts such as Saudi higher education. Numerous studies highlight that gameplay increases intrinsic motivation, reduces anxiety, and strengthens learners' willingness to communicate—factors recognized as essential for successful second language acquisition. According to Alshawi (2016), Saudi university students frequently describe video games as enjoyable and stress-free learning environments, contrasting sharply with the

performance-oriented, exam-driven nature of traditional EFL classrooms. Gamification elements such as achievement badges, points, progress tracking, and leaderboards further enhance engagement by appealing to learners' sense of competition and accomplishment (Alenezi, 2023; Almufareh, 2021). This type of engagement aligns with Self-Determination Theory (Deci & Ryan, 2000), which emphasizes the importance of autonomy, competence, and relatedness in sustaining motivation. Moreover, games foster social connectedness by enabling players to join global communities, communicate in English, and build relationships through shared activities. These interactions create informal learning networks where English is used as a natural medium of communication rather than as an academic requirement. For many Saudi learners, video games thus serve as powerful motivational tools that transform English practice into a meaningful, enjoyable, and self-directed activity, significantly enhancing long-term engagement and language exposure.

Challenges and Limitations

Despite the growing body of evidence demonstrating the linguistic and motivational benefits of video games in EFL learning, several challenges and limitations continue to hinder their systematic adoption in Saudi higher education. One of the most prominent obstacles is the lack of teacher training and institutional support. Many instructors in Saudi universities remain unfamiliar with game-based pedagogies and, as a result, are hesitant to incorporate video games into formal curricula. This skepticism is often rooted in traditional views that prioritize textbook-centered instruction and perceive digital games as distractions rather than legitimate learning tools. Studies such as Alrajhi (2020) and Mohammed and Ali (2021) highlight that without comprehensive professional development programs, educators may struggle to select appropriate games, design pedagogical activities around gameplay, or assess learning outcomes derived from game interaction.

Another significant challenge is the cultural appropriateness of game content. Many commercial video games include themes—such as violence, romance, supernatural elements, or culturally sensitive representations—that conflict with conservative social norms in Saudi Arabia. As noted by Alshaiji (2015), such issues can limit the availability of suitable games, require extensive content screening, or result in institutional restrictions on certain titles. These cultural considerations necessitate the careful adaptation or selection of games that align with local values while still providing meaningful linguistic opportunities.

Technical and infrastructural barriers also play a role in limiting widespread implementation. Although technology access in Saudi Arabia has improved significantly in recent years, some universities still face challenges such as limited gaming hardware, restricted internet access, or insufficient digital learning laboratories. These constraints are particularly problematic for online multiplayer games, which rely on stable, high-speed connectivity. Furthermore, issues of digital inequality may arise when students lack access to gaming devices or reliable internet at home, thereby creating disparities in learning opportunities.

A final challenge concerns the potential negative consequences associated with unregulated gameplay. Research by Griffiths (2017) and Alhazzaa et.al. (2023) warns that excessive gaming may lead to addiction, reduced academic productivity, and poor time management. Without clear guidelines or structured pedagogical frameworks, students may overindulge in gaming not for learning but as a form of escapism. Additionally, assessing learning outcomes derived from gameplay remains a complex issue. Language gains from gaming are often implicit, incidental, and difficult to measure using traditional assessment instruments. As Peterson (2016) notes, educators must adapt assessment methods to capture communicative competence and pragmatic development—skills that are not always reflected in standardized tests. These challenges collectively underscore the need for well-designed pedagogical, institutional, and policy-based strategies for successful implementation of video games in Saudi EFL education.

Discussion

The findings from the reviewed literature indicate that video games have considerable potential to enhance English language proficiency among Saudi EFL learners, particularly in the areas of vocabulary development, listening comprehension, and speaking fluency. These benefits align closely with established second language acquisition theories. For instance, Krashen's (1985) Input Hypothesis emphasizes the importance of comprehensible input that is slightly above the learner's current level, a condition frequently met in video games where players must understand language to complete in-game tasks. Similarly, the multimodal nature of gaming—combining visual cues, audio stimuli, and

contextualized text—supports Mayer's (2005) Cognitive Theory of Multimedia Learning, which argues that learners process information more effectively when it is presented in multiple formats.

Moreover, sociocultural perspectives on language learning reinforce the value of gaming environments. According to Vygotsky's (1978) Sociocultural Theory, learning occurs through social interaction and collaborative problem-solving. Online multiplayer games inherently facilitate such interactions, offering learners authentic communicative exchanges with peers and global players. These interactions require negotiation of meaning, turn-taking, and pragmatic awareness—skills essential for communicative competence yet often underdeveloped in traditional EFL classrooms. Peterson (2016) argues that such interactions can replicate naturalistic language environments, enabling learners to acquire discourse strategies and pragmatic norms organically.

The literature also highlights the motivational impact of gaming, which is particularly significant given the challenges often reported in Saudi EFL contexts, such as low learner confidence, high anxiety, and reduced willingness to communicate. Self-Determination Theory (Deci & Ryan, 2000) provides a useful framework for understanding this motivation: video games satisfy learners' psychological needs for autonomy, competence, and relatedness. Through self-paced gameplay, achievable challenges, and social interaction, learners develop a sense of agency and engagement that traditional classrooms may not provide. This motivational boost is crucial for sustained language exposure and fosters positive attitudes toward English learning.

However, despite these advantages, the discussion also reveals critical gaps in the current application of video games in Saudi higher education. For example, while the research demonstrates strong evidence for vocabulary, listening, and speaking gains, fewer studies have explored the long-term impact of gaming on writing proficiency, grammar development, or academic literacy. Another concern is that most integration of video games occurs informally outside the classroom. Saudi learners often play games independently, without pedagogical guidance, reflection tasks, or structured assessment. This limits the educational potential of games and underscores the need for a more systematic approach to implementation.

Finally, cultural and institutional barriers play an important role in shaping the adoption of game-based learning. As many studies indicate, educators must balance global exposure with cultural appropriateness, ensuring that games do not conflict with local values. This need for culturally sensitive adaptation highlights the importance of policy development, teacher training, and curriculum alignment to fully harness the educational potential of video games. Overall, the discussion shows that while video games represent a powerful tool for EFL development, their impact depends heavily on thoughtful integration, institutional support, and culturally informed pedagogical decision-making.

Future Directions and Research Gaps

Despite the growing interest in game-based learning, several research gaps and future directions remain that can guide more effective implementation in Saudi EFL contexts. One of the most significant gaps is the lack of longitudinal research. Most existing studies examine short-term outcomes, often based on a few weeks of intervention or informal gameplay habits. Longitudinal studies are needed to explore whether the linguistic gains achieved through gaming—such as vocabulary retention, listening proficiency, and oral fluency—persist over time and contribute to overall academic success. Such research would offer stronger evidence for the long-term effectiveness of game-based learning in higher education.

Another promising direction for future research is the development of culturally localized video games. Many studies highlight concerns about the cultural inappropriateness of mainstream commercial games. Future work could focus on designing educational games that align with Saudi cultural values while still providing rich linguistic input and interactional opportunities. These locally designed games could incorporate themes, characters, and narratives relevant to Saudi learners' identities, thereby enhancing both cultural resonance and motivation.

Teacher training also represents a critical area for future exploration. Research is needed to investigate how professional development programs can best prepare educators to use video games in the classroom. Studies could examine teachers' perceptions, digital competencies, and instructional strategies, as well as the challenges they face when integrating game-based learning. Understanding these factors would support the development of targeted training initiatives that empower educators to use games effectively and confidently.

Emerging technologies—such as virtual reality (VR), augmented reality (AR), and AI-driven conversational agents—also present fertile ground for future investigation. VR and AR environments can provide immersive experiences that simulate real-world communication scenarios, offering opportunities for authentic language practice that traditional classrooms cannot replicate. Similarly, AI-driven games can personalize language input, provide adaptive feedback, and track learner progress through learning analytics. Research exploring the potential of these technologies could significantly advance digital EFL pedagogy in Saudi Arabia.

Finally, future studies should employ learning analytics to examine in-game data, such as communication patterns, decision-making strategies, and linguistic choices. These analytical insights can help researchers better understand how learners acquire language within digital environments and how teachers can scaffold game-based activities to maximize learning outcomes. Ultimately, future research should strive to bridge the gap between informal game-based language learning and formal academic instruction, ensuring that video games are integrated in ways that are pedagogically sound, culturally appropriate, and aligned with Saudi educational priorities.

Conclusion

The findings of this review indicate that video games hold significant potential as complementary tools for enhancing English language proficiency among Saudi university students. Evidence consistently shows that gaming environments promote incidental learning, particularly in areas such as vocabulary acquisition, listening comprehension, and oral communication. The immersive, interactive, and socially engaging nature of video games enables learners to practice English in meaningful contexts that foster motivation, autonomy, and sustained engagement—factors that are essential for successful EFL development.

However, the integration of video games into formal educational settings in Saudi Arabia is not without challenges. Cultural considerations limited technological infrastructure, teacher skepticism, and the absence of clear assessment strategies continue to hinder the effective adoption of game-based learning. These issues highlight the need for institutional support, teacher training, and culturally responsive game selection in order to create structured, pedagogically relevant applications of video games within EFL curricula.

Moving forward, Saudi universities should consider developing targeted game-based modules, establishing digital language learning spaces, and integrating reflective tasks that guide students in connecting gameplay experiences with linguistic outcomes. Further research is also needed to examine long-term learning effects, develop reliable assessment tools, and explore culturally adapted game designs that align with the Saudi context. When thoughtfully implemented, video games can serve as powerful platforms for enhancing communicative competence, learner confidence, and long-term language retention, ultimately enriching English language education across Saudi higher education.

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