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Digital Games and Computer-Assisted Language Learning (CALL): A Study on ESL Learners Engagement and Motivation

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ABSTRACT

This study investigates the integration of digital games within Computer-Assisted Language Learning (CALL) environments and examines their influence on engagement and motivation among university-level ESL (English as a Second Language) learners. In the context of rapid technological advancement in education, digital game-based learning has emerged as a promising pedagogical approach that promotes interactive, immersive, and low-anxiety learning experiences. Grounded in motivational theory, learner engagement theory, and Krashen's Affective Filter Hypothesis, the study explores how game-based CALL activities shape learners' emotional responses, behavioral participation, and cognitive involvement in language learning tasks. Adopting a qualitative phenomenological design, data were collected through semi-structured interviews with 20 undergraduate ESL students aged 18–20 who had prior exposure to game-based CALL sessions. The data were analyzed using thematic analysis, which revealed several interconnected themes, including increased intrinsic motivation, enhanced behavioral and emotional engagement, improved communication confidence, and strengthened peer collaboration. Participants consistently reported that digital games made English learning more enjoyable, reduced fear of making mistakes, and encouraged active participation during classroom activities. The findings suggest that integrating digital games into CALL environments significantly contributes to sustained learner interest and positive classroom dynamics. While minor challenges such as technical issues were reported, the overall impact of game-based CALL was perceived as highly beneficial. The study highlights the pedagogical potential of digital games in fostering learner-centered, engaging, and motivating ESL instruction in higher education contexts.

Keywords: Digital Games, Computer-Assisted Language Learning (Call), Esl Learners, Learner Engagement, Learner Motivation, Game-Based Language Learning, Educational Technology

Introduction

In the modern era of education, technology play a pivotal role in shaping how learners learn, especially in the field of language acquisition. The integration of technology into language learning has transformed traditional methods of instruction, giving rise to

Computer-Assisted Language Learning (CALL), which leverages interactive tools to enhance language acquisition (Chapelle ,2001). Among these tool, digital games have garnered increasing attention due to their potential to boost learner motivation and engagement, especially among ESL (English as a Second Language) learners. Games in CALL environment provide immersive and interactive platforms that make learning enjoyable and less anxiety-inducing (Reinders,2012), However, while many studies highlight the benefits of game-based learning, there remain a gap in understanding how games in CALL specifically influence moyivation and sustained engagement among ESL learners in varied educational context. Games not only provide a context for meaningful language use but also promote learner autonomy, creativity and collaboration (GEE,2007).
Language learning games within CALL environments are not only entertaining but also serve pedagogical functions by immersing learners in meaningful contexts that encourage authentic language use. Studies have shown that game-based learning environments can reduce learner anxiety, foster a sense of achievement, and increase the willingness to communicate in a second language (Chen & Yang, 2013; Hung, Yang, Hwang, Chu, & Wang, 2018). These characteristics are especially important for English as a Second Language (ESL) learners, who often face challenges related to confidence and participation. A growing body of research supports the idea that game-based CALL tools positively impact ESL learners' motivation and language development. Studies have shown that learners who engage in digital games exhibit higher levels of lexical acquisition, grammar retention, and oral proficiency (Ranalli, 2008; Peterson, 2010). Furthermore, students often report greater satisfaction and enthusiasm when games are integrated into classroom instruction.
Despite the increasing popularity of games in CALL, there remains a need for further investigation into their specific effects on ESL learners' engagement and motivation. Many existing studies focus on general language learning populations or fail to isolate the motivational aspects of gaming in CALL environments (Godwin-Jones, 2014). This gap highlights the importance of examining how and why games influence learner attitudes and behaviours in ESL contexts. Engagement, both behavioural and emotional, is critical to successful language learning. Learners who are actively involved in learning tasks tend to demonstrate greater perseverance, achievement, and self-regulation (Fredricks, Blumenfeld, & Paris, 2004). Digital games can enhance engagement by offering personalized challenges, instant rewards, and opportunities for collaborative learning—all of which are conducive to sustained involvement in language tasks. Additionally, games can address the affective filter—Krashen's (1982) concept that anxiety, low motivation, and lack of confidence can hinder language acquisition. By creating a low-stress, playful environment, games reduce learners' fear of making mistakes and increase their willingness to communicate, especially in speaking and writing tasks.

Statement of the Problem

Despite the growing adoption of game-based learning tools in CALL, there is limited empirical research exploring how these game affect ESL learners' motivation and engagement in actual classroom settings. Many educators remain uncertain about the pedagogical effectiveness of such tools, leading to underutilization despite their potential. Without a clear understanding of how these games influence learners' behaviour and outcome, CALL may fail to achieve its goal of making language learning both effective and enjoyable (Zheo,2003). This study seeks to address this gap by investigating how ESL learners respond to the use of game within CALL platforms.

Objectives of the study

To examine the influence of game-based activities in Computer-Assisted Language Learning (CALL) on the engagement levels of ESL learners.

To investigate the impact of game-based CALL activities on the motivation of ESL learners toward language learning

Research Questions

How does the use of games in CALL influence the engagement level of ESL learners**?**

What is the impact of game-based CALL activities on ESL learners' motivation toward language learning?

Significance of the study

This study is significant in that it contributes to the growing field of technology-enhanced language learning by providing insights into the practical benefits and challenges of using games in CALL environment. it can inform teachers, curriculum designers, and educational software developers about the motivational factors that games can stimulate among ESL learners. The findings may also support institutions in making informed decisions regarding the integration of digital games into language instruction strategies to foster active participation and long-term interest in learning.

This study holds significance in the growing field of language education and educational technology by exploring how digital games within Computer-Assisted Language Learning (CALL) influence ESL learners' motivation and engagement. As today's university students are digital natives, integrating game-based tools in language classrooms can bridge the gap between traditional teaching methods and modern learning preferences. Understanding the experiences and perceptions of learners aged 18 to 20 allows educators to design more effective and engaging CALL environments that align with learners' cognitive, emotional, and social needs. The insights from this study contribute to the development of learner-cantered pedagogies that embrace the motivational power of play and interaction.

Moreover, the research adds value to the body of knowledge in second language acquisition by emphasizing the importance of affective factors—such as enjoyment, confidence, and social interaction—in sustaining learner engagement. By using qualitative interviews, this study captures the depth and nuance of students' real experiences, highlighting how games can reduce language anxiety and create more inclusive and supportive learning settings. These findings can inform ESL instructors, curriculum designers, and policy makers who aim to integrate game-based strategies into CALL programs, ultimately helping learners become more active, confident, and motivated participants in their own language learning journeys.

Literature Review

In the previous decades the use of game in Computer-Assisted Language Learning (CALL) has gained increasing attention in recent years as educators seek innovative strategies to enhance engagement and motivation among English as a Second Language (ESL) learners. Games provide a dynamic and interactive platform where learners can practice language skills in simulated, often playful, environment. Numerous studies have underscored the potential of game to transform traditional language learning into an experience that is both enjoyable and pedagogically effective (Reinders and Wattana, 2015). Motivation, a central concept in Second language acquisition, is significantly influenced by the integration of games into language learning.

Dornyel (2001) emphasize that learners who are more motivated are more likely to persist in language tasks and engage meaningfully with the learning process. In a study conducted by Das et al. (2023), it was found that gamification element such as point systems levels, and badges heightened learners' intrinsic motivation to complete English tasks, especially in virtual environment. The competitive yet collaborative nature of many CALL-based games contributes to sustained interest and learner autonomy.

In terms of learner engagement, Fredricks et al. (2004) define engagement as a multi-dimensional construct involving behavioural, emotional, and cognitive components. CALL games, by nature, address all three. For instance, behavioural engagement is increased as learners actively participate in tasks; emotional engagement is fostered by the enjoyable nature of games; and cognitive engagement is stimulated through problem-solving challenges that require the use of English (Peterson, 2010). These aspects are particularly important in maintaining the attention and involvement of learners over extended periods. Similarly, Shamari, Rohani, and Jam (2023) investigated the impact of mobile game-based applications on Iranian EFL learners' pronunciation. Their findings revealed a significant improvement in learners' pronunciation accuracy and fluency due to the immediate feedback and interactive models provided by the apps. This supports the idea that CALL games offer not only cognitive but also practical benefits in terms of spoken language development.

Games also play a critical role in reducing language anxiety. Krashen's (1982) affective filter hypothesis suggests that learners are more receptive to language input when they feel relaxed and confident. Ahmed (2022) found that ESL learners participating in game-based CALL activities reported significantly lower levels of anxiety compared to learners in conventional classrooms. The playful nature of games, along with anonymity and reduced peer pressure in online settings, creates a supportive environment conducive to language risk-taking. From a pedagogical perspective, teachers have reported that integrating games into CALL enhances classroom dynamics and student participation. However, successful implementation requires proper training and alignment with curriculum objectives. Das et al. (2023) emphasized the importance of teacher readiness and digital literacy in realizing the full potential of game-based CALL. Teachers unfamiliar with gaming platforms may either underuse or misuse these tools, resulting in missed educational opportunities.

Despite these advantages, not all games are equally effective. Reinhardt and Sykes (2012) caution that games must be pedagogically grounded and aligned with language learning goals. Some games, while entertaining, may lack sufficient linguistic input or fail to challenge learners appropriately. Therefore, the selection of games should be deliberate, with consideration given to the learners' proficiency level, learning style, and course objectives. Age and cultural context also influence how learners respond to CALL games. DeHaan et al. (2010) observed that younger learners were generally more enthusiastic about fast-paced, visual games, while adult learners preferred simulations that mirrored real-life scenarios. Culturally relevant content was also shown to enhance engagement, making it essential for educators to choose or adapt games that reflect the learners' social and cultural backgrounds. Looking to the future, the use of Augmented Reality (AR) and Virtual Reality (VR) in CALL games presents new possibilities for immersive language learning. Haq (2023) explored AR-based CALL with elementary school ESL learners and found increased motivation, improved retention, and stronger cognitive performance. These technologies promise to make language learning even more interactive and context-rich, though their cost and technical complexity may be limiting factors in some contexts.

Research Methodology

This study adopted a qualitative research design, specifically a phenomenological approach, to explore university-level ESL learners' perceptions of using games in Computer-Assisted Language Learning (CALL). The goal was to understand the lived experiences, attitudes, and feelings of learners as they engaged in game-based language learning environments. A qualitative design was deemed appropriate to gain in-depth insights into the motivational and emotional factors influencing learner engagement. The participants consisted of 20 undergraduate ESL students aged 18 to 20, enrolled in academic English language courses at a university. All participants had at least one semester of exposure to CALL environments and were familiar with using digital tools for language learning. Purposive sampling was used to select participants who had participated in recent CALL sessions that included digital games. The diversity in language proficiency allowed for a range of perspectives on engagement and motivation. Semi-structured interviews were conducted to gather rich, descriptive data on students' experiences with game-based CALL activities. Each interview lasted approximately 25–30 minutes and was conducted in English in a quiet, private room on campus. An interview guide was developed with open-ended questions, allowing for flexibility to explore emerging themes during the conversation. All interviews were audio-recorded with participants' consent and transcribed verbatim for analysis. Pseudonyms were assigned to ensure confidentiality.

Data Analysis

To ensure alignment with the study's objectives—(1) examining the influence of game-based CALL activities on engagement and (2) investigating their impact on ESL learners' motivation—the qualitative data were analyzed using thematic analysis as proposed by Braun and Clarke (2006). This method was selected because it allows for systematic identification of patterns related specifically to learners' engagement and motivational experiences in game-based CALL environments.

All semi-structured interviews were transcribed verbatim. The analysis followed six stages: familiarization with the data, initial coding, searching for themes, reviewing themes, defining and naming themes, and producing the final report. NVivo software was used to organize and manage the coding process, allowing systematic comparison across participants.

Importantly, coding was both deductive and inductive. Deductive coding was guided by the study's objectives and theoretical foundations (motivation theory, engagement theory, and Krashen's affective filter hypothesis), focusing specifically on motivational indicators (e.g., enthusiasm, willingness to participate, persistence) and engagement indicators (behavioral, emotional, and cognitive involvement). Inductive coding allowed additional themes to emerge naturally from participants lived experiences.

The analysis generated four major themes directly aligned with the research objectives:

Increased motivation and enthusiasm for language learning

Enhanced behavioral and emotional engagement

Peer collaboration and social interaction

Reduced anxiety and increased communication confidence

These themes collectively demonstrate how digital games in CALL environments influence both motivational intensity and engagement quality among ESL learners.

Many participants described game-based lessons as enjoyable and stimulating, stating that classes felt "less stressful" and "more exciting" compared to traditional lectures.

Several learners reported that they felt more confident speaking English during gameplay because the competitive and collaborative format shifted attention from fear of making mistakes to task completion and teamwork. These findings support earlier work by Reinders and Wattana (2015), which emphasizes the role of digital games in increasing learners' willingness to communicate.

Additionally, peer interaction emerged as a strong engagement factor. Students frequently mentioned helping classmates, competing in a friendly manner, and communicating more actively during game sessions. This collaborative atmosphere enhanced both emotional engagement and intrinsic motivation.

Overall, the thematic findings directly address the study's objectives by demonstrating that game-based CALL activities positively influence ESL learners' motivation and multidimensional engagement—behavioral, emotional, and social.

To maintain methodological rigor and ensure alignment with the study objectives, each research question was analyzed using clearly defined indicators directly connected to learners' motivation and engagement in game-based CALL environments. The analysis remained grounded in the two primary objectives of the study: examining the influence of digital games on ESL learners' engagement and investigating their impact on learner motivation.

In addressing learners' perceptions of using games in CALL classes, qualitative data from interviews and open-ended responses were examined with particular attention to affective and motivational dimensions. Coding categories were developed to capture positive emotional responses such as enjoyment, excitement, and reduced anxiety, as well as confidence in speaking and willingness to communicate in English. Participants' comments regarding the perceived usefulness of games for improving vocabulary, grammar, or speaking skills were also coded as motivational indicators. At the same time, neutral or negative responses, including confusion or distraction, were recorded to ensure analytical balance. Thematic coding was applied, and recurring emotional expressions were identified through frequency patterns. These emotional indicators were then interpreted in relation to established motivational constructs, including intrinsic interest and the reduction of the affective filter.

The influence of games on participation was analyzed through learners' self-reported experiences of classroom involvement. The focus here was primarily on behavioral engagement, in alignment with the first objective of the study. Indicators such as increased participation frequency, active involvement in tasks, voluntary contributions during gameplay, and persistence in completing language activities were systematically coded. Narrative excerpts were examined to identify explanations for heightened engagement, with students frequently attributing their participation to the enjoyable learning atmosphere, reduced fear of making mistakes, competitive excitement, and the presence of immediate feedback.

When exploring the types of games students found most engaging, qualitative responses were categorized descriptively. Games were grouped into quiz-based platforms, role-playing or simulation games, collaborative versus competitive formats, and vocabulary or grammar-focused activities. Engagement was analyzed across behavioral, emotional, and cognitive dimensions. Behavioral engagement was reflected in active task completion, emotional engagement in expressions of excitement and enjoyment, and cognitive engagement in references to problem-solving and strategic thinking. Frequency patterns were examined to determine which formats most effectively stimulated sustained interest and involvement across participants.

The impact of games on social interaction was analyzed through interview data focusing on social and emotional engagement. Coding emphasized indicators such as peer collaboration, increased communication confidence, teamwork, shared problem-solving, and reduced hierarchical distance between teachers and students. Participants' narratives demonstrated that game-based CALL activities fostered a supportive and cooperative learning environment. The analysis highlighted how digital games encouraged collective learning and social bonding, reinforcing sociocultural perspectives that emphasize the importance of interaction in language development.

Challenges in game-based learning were also examined to provide a balanced interpretation of the findings. Responses were coded into thematic categories, including technical issues such as internet connectivity or software problems, difficulties understanding game instructions, off-task distractions, and uneven participation within teams. The analysis considered how these challenges influenced levels of engagement and motivation, recognizing that while digital games offered substantial benefits, their effectiveness depended on proper implementation and technological support.

To enhance analytical rigor and trustworthiness, several strategies were employed throughout the process. Codes were cross-checked to ensure consistency and coherence. Emerging themes were continuously reviewed in relation to the research objectives to maintain alignment with the study's focus. Direct participant quotations were incorporated to substantiate interpretations and provide transparency. Reflexivity was maintained during analysis to minimize researcher bias and ensure that conclusions were firmly grounded in the data. Collectively, these procedures strengthened the credibility of the findings and reinforced the study's contribution to understanding the motivational and engagement-related impact of digital games in CALL environments.

Findings and Discussion

The findings from the semi-structured interviews revealed that digital games significantly enhanced learners' motivation to engage with English language content. Participants consistently described game-based CALL activities as "fun," "exciting," and "less stressful" than traditional learning methods. Many students expressed a greater willingness to participate, take risks, and speak in English during game-based sessions. For instance, one learner shared, "I usually feel nervous speaking in English, but when we play games, I forget I'm nervous because I'm just trying to win or help my team." This reflects how the gamified format can reduce performance anxiety and create a more relaxed learning atmosphere—a phenomenon supported by Reinders and Wattana (2015), who found that games can foster a low-anxiety environment that increases willingness to communicate in the target language. Another key theme that emerged was active engagement and enjoyment. Students reported being more focused and involved during CALL sessions that used games, describing them as "energetic" and "not boring like lectures." The interactive nature of tools like Kahoot! and Quizizz encouraged learners to think quickly, stay alert, and collaborate with peers. This sense of real-time competition and cooperation contributed to sustained attention and improved recall of vocabulary and grammar structures. These findings echo those of Chen and Yang (2013), who found that game-based tasks increased learner attention and content retention by providing immediate feedback and interactive stimuli. Finally, the study highlighted the importance of peer interaction and social learning. Learners noted that games fostered a sense of teamwork, which improved class dynamics and encouraged collaboration. One participant said, "I feel more comfortable asking my friend for help during games than during normal classwork." This sense of camaraderie helped students feel more supported and confident. These observations align with Vygotsky's (1978) sociocultural

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theory, which emphasizes the role of social interaction in learning. The competitive yet cooperative nature of digital games not only encouraged communication but also built stronger classroom relationships, enhancing both academic and emotional engagement.

Conclusion

This study explored the role of game-based learning within Computer-Assisted Language Learning (CALL) environments and its effect on the motivation and engagement of university-level ESL learners aged 18 to 20. Through qualitative interviews, it became evident that digital games positively influenced learners' attitudes toward language learning. Students reported increased motivation, decreased anxiety, and a greater willingness to participate when games were integrated into their English classes. These findings suggest that educational games provide an enjoyable and supportive context that fosters confidence and encourages risk-taking—key components of effective language acquisition.

Moreover, the study emphasized the social and collaborative benefits of game-based learning. Participants highlighted how games promoted classroom interaction, peer cooperation, and a positive atmosphere, all of which contributed to sustained engagement. These insights reinforce the value of learner-cantered, interactive approaches in modern ESL instruction. In light of these findings, educators and curriculum developers are encouraged to incorporate game-based CALL strategies as a regular part of language teaching. Doing so can help bridge the gap between traditional instruction and the expectations of digital-native learners, ultimately creating more meaningful and engaging learning experiences.

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