The Journal of Language and Literature Insight

Volume 2, Issue 3, P. 29 – 35

e-ISSN: 3048 - 3441

VOCABULARY ACQUISITION THROUGH ROBLOX GAME INTERACTION AMONG YOUNG LEARNERS

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Article Information

Received: November 12, 2025
Revised: December 5, 2025
Accepted: December 15, 2025

Abstract

This study examines English vocabulary acquisition through interaction in the Roblox game environment among young learners aged 7 and 11. Using a qualitative case study approach, data were collected through gameplay observations, screen recordings, in-game chat logs, interviews, and field notes. The analysis focused on identifying vocabulary categories, interaction types, and age-related patterns. The findings indicate that vocabulary acquisition occurred incidentally through repeated and meaningful interaction during gameplay. The acquired vocabulary included game-related nouns, action verbs, descriptive words, and formulaic expressions. Vocabulary learning was supported by interaction with the game system, other players, and visual context. Differences were found between the two learners, with the younger learner relying more on repetition and visual cues, while the older learner demonstrated broader vocabulary use and more active interaction. The study concludes that Roblox offers an effective informal environment for supporting English vocabulary acquisition among young learners.
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Keywords: Vocabulary acquisition; Digital game-based learning; Roblox; Young learners

Introduction

Digital technology has become an integral part of children's daily lives, reshaping how they interact, play, and learn. Among various digital platforms, online games have emerged not only as entertainment media but also as potential environments for language learning. Young learners are increasingly exposed to English through games, videos, and social interactions in virtual spaces, often outside formal classroom instruction. This phenomenon has drawn scholarly attention, particularly in the field of second language acquisition (SLA), as it challenges traditional assumptions that language learning primarily occurs in structured educational settings (Gee, 2003; Sundqvist & Sylvén, 2016).

Vocabulary acquisition is a fundamental component of language development and a strong predictor of overall language proficiency (Nation, 2013). For young learners, vocabulary learning

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is closely related to meaningful exposure, repetition, and contextualized use of language (Cameron, 2001). Digital games provide rich multimodal input combining text, audio, visuals, and interaction which can facilitate incidental vocabulary learning in ways that differ from textbook-based instruction (Peterson, 2016). Through gameplay, learners encounter new words and expressions in authentic, goal-oriented contexts, allowing them to associate language with actions, outcomes, and social interaction.

Roblox is one of the most popular online gaming platforms among children worldwide. Unlike single-player games, Roblox offers a multiplayer environment where users create avatars, explore virtual worlds, and communicate with other players using English as the dominant language. Interaction in Roblox often involves reading instructions, understanding in-game narratives, responding to prompts, and engaging in chat-based or task-based communication with other players. Such features make Roblox a potentially powerful site for naturalistic English vocabulary acquisition, especially for young learners who may not yet have strong literacy skills or extensive formal exposure to English.

Previous studies on digital game–based language learning have reported positive effects on vocabulary development, motivation, and learner engagement. Research has shown that online games can promote incidental vocabulary learning through repeated exposure and meaningful use (Sundqvist, 2019; Sylvén & Sundqvist, 2012). Multiplayer online games, in particular, have been found to support language learning through social interaction and collaboration, aligning with sociocultural perspectives on SLA that emphasize the role of interaction and mediation in learning (Vygotsky, 1978; Peterson, 2012). Studies focusing on massively multiplayer online role-playing games (MMORPGs) indicate that learners acquire vocabulary and pragmatic expressions as they negotiate meaning with other players (Zheng et al., 2009).

However, much of the existing research has focused on adolescents, university students, or adult learners, with relatively limited attention given to younger children. Studies involving young learners often examine game-based learning in controlled classroom environments, using educational games specifically designed for language instruction (Reinders & Wattana, 2015). Fewer studies have explored commercial online games, such as Roblox, that children play voluntarily in informal settings. Moreover, research that does address informal digital gaming contexts tends to concentrate on general language exposure or motivation rather than providing detailed accounts of how specific vocabulary items and expressions are acquired through interaction.

Age is another important factor in language acquisition research. Children aged 7 and 11 represent distinct developmental stages. At around seven years old, children are still developing basic literacy skills and rely heavily on contextual cues, visuals, and repetition. By the age of eleven, children typically demonstrate greater cognitive maturity, improved reading ability, and increased metalinguistic awareness, which may influence how they process and acquire new vocabulary (Lightbown & Spada, 2021). Comparing learners at these two ages can provide valuable insights into how developmental differences shape vocabulary acquisition in digital gaming environments.

Despite the growing popularity of Roblox among young learners, empirical studies examining English vocabulary acquisition through Roblox interaction remain scarce. Existing research on Roblox has largely focused on creativity, socialization, and digital citizenship rather than on language-learning outcomes. When language learning is discussed, it is often treated descriptively without systematic analysis of vocabulary types, usage patterns, or interactional contexts. As a result, there is limited understanding of how young learners acquire English vocabulary and expressions through Roblox gameplay, particularly in natural, informal settings outside formal instruction.

This study addresses these gaps by conducting an in-depth case study of English vocabulary acquisition among two young learners, ages 7 and 11, through their interactions in the Roblox game environment. Unlike previous studies that focus on older learners or classroom-based digital games, the present study examines spontaneous, informal language use in a commercial online game that children engage with voluntarily. It also places particular emphasis on

identifying the types of vocabulary and expressions acquired, the interactional contexts in which acquisition occurs, and the differences observed between the two age groups.

By focusing on young learners and comparing two developmental stages, this study contributes to the literature on informal digital language learning and child SLA. It extends previous research by providing micro-level analysis of vocabulary acquisition processes in a multiplayer gaming context, thereby offering a more nuanced understanding of how interaction, context, and age interact in shaping language learning outcomes.

The objectives of this study are: (1) to identify the types of English vocabulary and expressions acquired by children aged 7 and 11 through interaction in the Roblox game environment; (2) to analyze how interaction within the game facilitates vocabulary acquisition among young learners; and (3) to examine similarities and differences in vocabulary acquisition between the two age groups. Through these objectives, the study seeks to clarify the role of online game interaction in supporting English vocabulary development among young learners and to highlight the potential of informal digital environments as complementary spaces for language learning.

Methods

This study employed a qualitative case study design to examine English vocabulary acquisition through interaction in the Roblox game environment among two young learners aged 7 and 11. This design enabled in-depth analysis of language use in a natural digital context (Yin, 2018).

The cases were bounded by participant age, the Roblox platform, and the gameplay observation period. The participants represented different developmental stages, allowing comparison of vocabulary acquisition across ages.

The research procedure included participant selection and parental consent, gameplay observation and recording, data transcription, coding, analysis, and interpretation of findings (see Figure 1). Data were collected during regular gameplay sessions without instructional intervention to ensure natural language use.

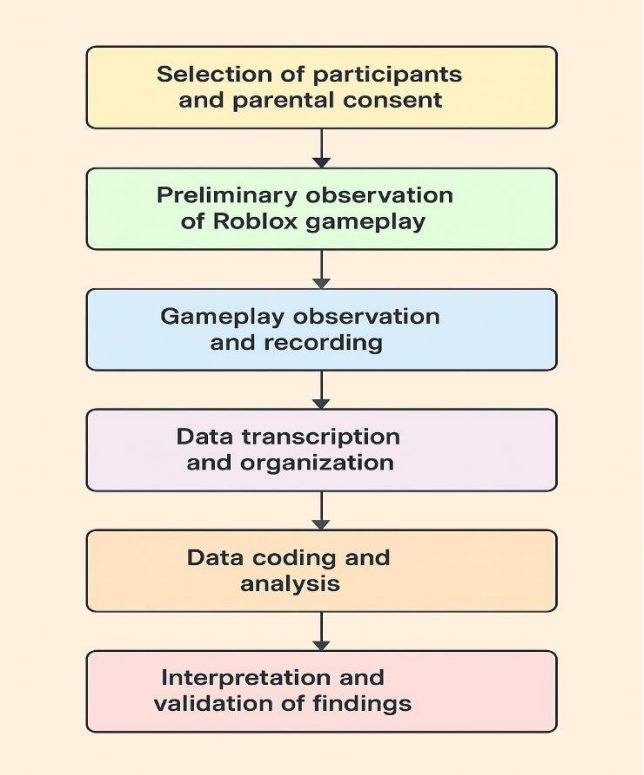

Figure 1. Research Procedure Flowchart

Data collection used multiple sources to ensure credibility through triangulation (Miles et al., 2014). The primary data consisted of screen recordings and in-game chat logs. These were supported by short semi-structured interviews and field notes to clarify vocabulary understanding and interactional context.

Data analysis was conducted qualitatively using thematic coding. Vocabulary items and expressions were identified and categorized based on type and interactional function. The analysis focused on interaction-based acquisition processes, including repetition, contextual inference, and imitation (Nation, 2013; Ellis, 2008). A cross-case comparison was performed to identify similarities and differences between the two participants. Credibility was enhanced through data triangulation and limited member checking.

Findings and Discussion

This section presents the findings of the study and discusses them in relation to relevant literature. The findings are derived from gameplay observations, screen recordings, chat logs, interviews, and field notes. The section explains patterns of English vocabulary acquisition through interaction in the Roblox game environment among learners aged 7 and 11.

Vocabulary Categories Acquired through Roblox Interaction

The findings show that English vocabulary acquisition during Roblox gameplay occurred in several identifiable categories. The vocabulary items acquired by both participants were grouped into four main categories based on their function and usage in the game environment, as presented in Table 1.

Table 1. Vocabulary Categories Acquired through Roblox Gameplay

Category	Examples	Context of Use
Game-related nouns	*player, level, coins, map, weapon*	Game interface and task completion
Action verbs	*run, jump, build, follow, attack*	Movement and in-game actions
Descriptive words	*fast, strong, big, safe*	Avatar description and game status
Formulaic expressions	*let's go, help me, wait, thank you*	Social interaction and coordination

Game-related nouns and action verbs were the most frequently used vocabulary items. These words appeared repeatedly in the game interface and were directly related to immediate actions and gameplay goals. Formulaic expressions were mainly used during interaction with other players, particularly in cooperative gameplay situations.

These findings indicate that vocabulary acquisition in the Roblox environment was closely related to functional language use. Vocabulary items that supported task completion and communication were more frequently acquired, suggesting that meaningful contexts contributed to vocabulary development (Nation, 2013). Overall, vocabulary learning in the Roblox environment occurred primarily through meaningful and goal-oriented interaction, highlighting the importance of contextualized language use in supporting vocabulary development.

Vocabulary Acquisition Based on Interaction Type

Further analysis indicates that English vocabulary acquisition during Roblox gameplay can be systematically mapped according to the types of interaction occurring within the game environment. Three primary interaction types were identified: interaction with the game system, interaction with other players, and interaction with visual context.

Interaction with the game system functioned as the main source of vocabulary exposure. Through engagement with instructions, menus, and task prompts, learners were repeatedly exposed to game-related nouns and action verbs. These vocabulary items were directly linked to gameplay mechanics and were consistently used to accomplish in-game tasks.

Interaction with other players took place through in-game chat and cooperative activities. This form of interaction supported the acquisition of formulaic expressions and socially oriented vocabulary, which were employed to coordinate actions and sustain communication during collaborative gameplay.

Interaction with visual context involved learners' observation of avatars' actions, symbols, and game outcomes. Visual cues facilitated learners' comprehension of descriptive words and reinforced action-related vocabulary, enabling learners to infer meaning within the gameplay context.

Accordingly, these findings underscore the role of interaction in vocabulary development, as learners acquire language through active engagement with tasks and communication in meaningful contexts (Ellis, 2008; Peterson, 2012). This indicates that interactive gameplay environments can effectively support incidental vocabulary learning.

Age-Based Differences in Vocabulary Acquisition

Differences in vocabulary acquisition were observed between the two participants. The 7-year-old learner primarily acquired vocabulary through interaction with the game system and visual context. During gameplay, this learner tended to repeat a limited set of frequently encountered words, mainly game-related nouns and basic action verbs, and relied heavily on game prompts and visual cues to use vocabulary appropriately.

In contrast, the 11-year-old learner acquired vocabulary through all three interaction types. This learner demonstrated greater initiative by actively engaging in in-game communication, producing short phrases rather than isolated words, and employing a wider range of vocabulary across different gameplay situations. The older learner was also observed to reuse newly encountered vocabulary in subsequent interactions, indicating a higher level of vocabulary control and transfer.

These findings illustrate age-related variation in vocabulary use and learning processes (Lightbown & Spada, 2021). Therefore, older learners demonstrate more flexible and varied vocabulary use, reflecting developmental differences in language acquisition**.**

Frequency and Use of Acquired Vocabulary

The findings further reveal differences in the frequency and complexity of vocabulary use between the two learners. The younger learner tended to repeatedly use a limited set of familiar vocabulary items, particularly those directly prompted by the game interface. Vocabulary use by this learner was primarily confined to task completion and relied heavily on repetition.

In contrast, the older learner employed a broader range of vocabulary with lower levels of repetition. Vocabulary use by this learner occurred across both task-based and social interactions and was more contextually varied. The older learner was also observed to combine vocabulary items into short phrases, indicating more flexible and purposeful language use.

Figure 2 illustrates the mapping of vocabulary acquisition through Roblox game interaction, highlighting the relationship between interaction types, vocabulary categories, and age-related patterns.

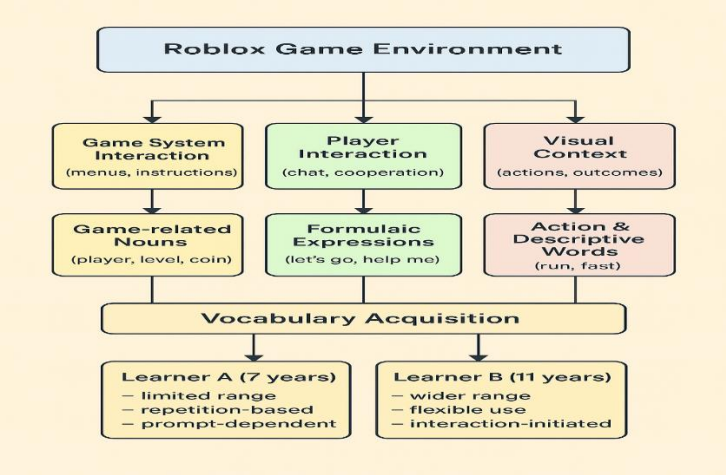

Figure 2. Mapping of Vocabulary Acquisition through Roblox Game Interaction among Young Learners

Accordingly, the findings demonstrate that English vocabulary acquisition through Roblox gameplay occurred through repeated and meaningful interaction. Vocabulary learning was incidental and driven by functional language use rather than explicit instruction. These results align with previous studies emphasizing the role of digital games and informal learning environments in supporting vocabulary development (Nation, 2013; Sylvén & Sundqvist, 2012). Consequently, Roblox gameplay can be regarded as an effective informal context for facilitating incidental English vocabulary acquisition among young learners.

Conclusion

This study concludes that interaction within the Roblox game environment provides meaningful opportunities for English vocabulary acquisition among young learners aged 7 and 11. Vocabulary learning occurred naturally as learners engaged with game tasks, communicated with other players, and responded to visual and textual cues embedded in the gameplay. These interactions supported the acquisition of vocabulary that was functional and relevant to learners' immediate communicative needs.

The findings also indicate that age influences the way learners acquire and use vocabulary in digital game-based environments. Younger learners tended to depend on repetition and visual support, while older learners demonstrated greater flexibility, wider vocabulary use, and more active participation in social interaction. This suggests that digital games may accommodate different developmental stages by offering varied interactional affordances.

Overall, the study highlights the potential of Roblox as an informal learning space that supports incidental vocabulary learning through interaction rather than explicit instruction. For future research, studies involving a larger number of participants, longer observation periods, or different types of digital games are recommended to further explore vocabulary development and other language skills in game-based learning contexts.

Acknowledgement

The author would like to express sincere gratitude to the participants and their parents for their willingness and cooperation in this study. Appreciation is also extended to all individuals who provided support during the data collection process. Their contribution was invaluable to the completion of this research.

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