The Influence of Video Games Digital Media on Vocabulary Acquisition in Adolescence

By: Asst. Prof. Dr. Hayder Ali Abdulridha ALUBAIDI

Hayder.alia@uokut.edu.iq

009647717933611

College of Education, English department

Kut University, Iraq

Abstract

This study investigated the influence of video games and digital media on vocabulary acquisition among adolescents. In recent decades, digital environments have become central to adolescents' daily communication and learning experiences. Given the growing presence of English-language video games and online platforms, this research aimed to examine whether regular exposure to such digital environments contributes significantly to vocabulary development.A mixed-method research design was employed, combining quantitative vocabulary tests with qualitative interviews. A total of 120 adolescents aged 13–18 participated in the study, divided into frequent gamers and non-gamers. Vocabulary breadth and depth were measured using standardized instruments, while motivational factors and gaming habits were assessed through structured questionnaires

and interview. The findings revealed statistically significant differences between gamers and non-gamers in both vocabulary size and depth of lexical knowledge. Frequent gamers demonstrated greater vocabulary gains over an eight-week period. Correlation and regression analyses indicated that gaming frequency, multiplayer engagement, and intrinsic motivation were strong predictors of vocabulary improvement. Additionally, role-playing games (RPGs) were associated with the highest lexical gains compared to other genres.

Chapter One

1.1 Introduction

In the twenty-first century, digital technology has become deeply embedded in adolescents' daily lives. Among the most influential digital environments are video games and online media platforms, which have transformed not only entertainment practices but also communication, literacy habits, and language exposure patterns. Adolescents today interact with complex linguistic input through multiplayer games, online chats, streaming platforms, and social media networks. This shift from traditional classroom-based exposure to informal digital immersion has generated increasing scholarly interest in understanding how digital environments contribute to language development, particularly vocabulary acquisition . Vocabulary acquisition plays a central role in language proficiency, reading comprehension, academic achievement, and communicative competence. Researchers emphasize that lexical knowledge is one of the strongest predictors of overall language ability and literacy success . Traditionally, vocabulary learning has been associated with formal instruction, textbook exposure, and explicit memorization strategies. However, emerging research suggests that incidental vocabulary learning through meaningful interaction especially in digital environments may be equally or even more effective under certain conditions (Webb & Nation, 2017, p. 98).

Video games, particularly multiplayer online games, role-playing games (RPGs), and open-world environments, expose adolescents to authentic language use, task-based communication, problem-solving discourse, and contextualized lexical repetition. These features align with principles of situated learning theory, which argues that learning occurs most effectively when knowledge is embedded in meaningful contexts . Moreover, digital

media environments often require players to read instructions, negotiate strategies, interpret narratives, and communicate with peers across linguistic backgrounds, thereby increasing lexical engagement. In addition to gaming, digital media platforms such as YouTube, TikTok, Discord, and streaming services provide adolescents with continuous exposure to informal and authentic language varieties. Such exposure often includes slang, idiomatic expressions, technical vocabulary, and cross-cultural linguistic exchange. Scholars have observed that digital interaction can facilitate both receptive and productive vocabulary growth, especially when learners are motivated and emotionally engaged . Despite growing optimism regarding digital learning environments, concerns remain regarding cognitive overload, distraction, and superficial processing. Critics argue that excessive gaming may reduce attention span or lead to fragmented learning patterns . Therefore, the relationship between video games and vocabulary acquisition remains complex and requires systematic empirical investigation . This study aims to examine how video games and digital media influence vocabulary acquisition among adolescents, identifying both cognitive and motivational mechanisms involved in this process (Nation, 2013, p. 22).

1.2 Statement of the Problem

Although digital gaming is one of the most widespread activities among adolescents globally, its educational implications remain debated. Many educators still perceive video games primarily as entertainment rather than as potential learning tools. At the same time, adolescents often acquire English vocabulary outside the classroom through gaming environments, yet this informal learning is rarely acknowledged or measured in academic contexts .The problem addressed in this study is the lack of comprehensive empirical research that measures the extent to which video game exposure

contributes to measurable vocabulary gains among adolescents. While several studies indicate positive correlations between gaming frequency and lexical knowledge, there is limited clarity regarding:

The type of vocabulary acquired (academic vs. colloquial)

The depth of vocabulary knowledge (form, meaning, use)

The role of interaction versus passive exposure

Differences between game genres

The influence of motivation and engagement .Furthermore, much of the existing research focuses on young children or adult learners, leaving adolescence a critical developmental stage underexplored .Thus, this study seeks to fill a research gap by systematically investigating the relationship between video game engagement and vocabulary acquisition among adolescents in a structured empirical framework (Sylvén & Sundqvist, 2019, p. 152).

1.3 Aims and Objectives of the Study

1.3.1 General Aim

To investigate the influence of video games and digital media on vocabulary acquisition among adolescents.

1.3.2 Specific Objectives

1-To measure vocabulary gains associated with regular video game exposure.

2-To compare vocabulary acquisition between gamers and non-gamers.

3-To identify which types of games contribute most significantly to lexical growth.

4-To examine the role of motivation and engagement in digital vocabulary learning.

5-To analyze the depth of vocabulary knowledge acquired through gaming contexts.

1.4 Research Questions

Does frequent video game exposure significantly improve vocabulary acquisition in adolescents?

1-What types of vocabulary are most commonly acquired through digital gaming?

2- Is there a difference in vocabulary development between multiplayer and single-player games?

3- How does learner motivation mediate vocabulary acquisition in gaming contexts?

4- Does incidental exposure lead to long-term retention of lexical items?

1.5 Research Hypotheses

H1: Adolescents who engage regularly in English-language video games demonstrate significantly higher vocabulary knowledge than those who do not.

H2: Multiplayer online games lead to greater productive vocabulary development compared to single-player games.

H3: Motivation and engagement positively correlate with vocabulary retention in digital gaming contexts.

1.6 Significance of the Study

This study is significant for several reasons. First, it contributes to applied linguistics research by expanding understanding of informal digital learning environments. Second, it provides empirical data for educators seeking to integrate technology into language teaching practices. Third, it informs parents and policymakers about the potential educational value of video games when used strategically . Additionally, this research addresses contemporary educational challenges by recognizing adolescents' real-life linguistic experiences rather than limiting language development to classroom contexts. As digital exposure continues to increase globally, understanding its linguistic impact becomes essential for curriculum innovation (Godwin-Jones, 2018, p. 9).

Chapter Two

2.1Literature Review

The rapid expansion of digital media and interactive technologies has significantly transformed the linguistic environments in which adolescents develop language skills. Unlike previous generations whose vocabulary acquisition primarily depended on classroom instruction, printed materials, and face-to-face interaction, contemporary adolescents are immersed in multimodal digital ecosystems. These ecosystems include video games, streaming platforms, social media networks, and online communication tools that expose users to continuous streams of language input. As a result, researchers in applied linguistics, educational psychology, and media studies have increasingly investigated the potential of digital environments to support incidental vocabulary acquisition . Vocabulary acquisition, defined as the process by which learners gain knowledge of word form, meaning, and use, is central to communicative competence and academic literacy . In second language acquisition (SLA), lexical knowledge has been consistently identified as one of the strongest predictors of overall proficiency . Therefore, understanding how digital engagement influences vocabulary growth among adolescents is essential for both theoretical and pedagogical reasons . This chapter reviews the theoretical foundations and empirical studies related to digital media, video games, and vocabulary acquisition. It begins by examining key theories of vocabulary learning, followed by theoretical perspectives on digital game-based learning. The chapter then analyzes previous empirical findings, identifies research gaps, and positions the present study within existing scholarship (Nation, 2013, p. 27).

2.2 Theoretical Foundations of Vocabulary Acquisition

2.2.1 Incidental and Intentional Vocabulary Learning

Vocabulary acquisition occurs through both intentional and incidental processes. Intentional learning refers to deliberate memorization and explicit instruction, often occurring in classroom settings. In contrast, incidental learning takes place when learners acquire vocabulary while focusing on meaning rather than form . Research has shown that incidental exposure through meaningful contexts can lead to durable lexical retention, particularly when input is repeated and contextualized . Video games provide repeated exposure to mission-related vocabulary, narrative discourse, and interactive dialogue, which may enhance incidental vocabulary acquisition (Webb & Nation, 2017, p. 53).

2.2.2 Depth of Vocabulary Knowledge

Vocabulary knowledge is multidimensional. According to Nation (2013), knowing a word involves understanding its pronunciation, spelling, grammatical behavior, collocations, frequency, register, and associations . Therefore, measuring vocabulary acquisition requires assessing not only breadth (number of words known) but also depth (quality of knowledge). Digital gaming environments may support deeper lexical knowledge because they embed words within problem-solving tasks and narrative contexts. Repeated encounters with words in meaningful situations strengthen semantic networks, consistent with usage-based learning theories (Ellis, 2015, p. 64).

2.2.3 Input Hypothesis and Comprehensible Input

Krashen’s Input Hypothesis proposes that language acquisition occurs when learners are exposed to input slightly beyond their current proficiency level (i+1) . Digital games often provide graded challenges, adaptive difficulty levels, and contextual clues that make input

comprehensible while still challenging. Furthermore, multimodal cues such as images, sound effects, and animations support comprehension and reduce cognitive load. Mayer's Cognitive Theory of Multimedia Learning suggests that combining verbal and visual input enhances retention when properly integrated (Mayer, 2009, p. 71).

2.3 Theoretical Perspectives on Digital Game-Based Learning

2.3.1 Situated Learning Theory

Situated learning theory argues that knowledge is constructed within authentic contexts and social interaction . Multiplayer online games create communities of practice in which players negotiate meaning, collaborate on tasks, and share strategies. These interactive contexts may enhance vocabulary acquisition by embedding language in purposeful activity.

2.3.2 Self-Determination Theory and Motivation

Motivation plays a critical role in language acquisition. Self-Determination Theory (SDT) distinguishes between intrinsic and extrinsic motivation, emphasizing autonomy, competence, and relatedness as key psychological needs . Video games are designed to satisfy these needs by offering autonomy (player choice), competence (skill progression), and social interaction (multiplayer engagement). High intrinsic motivation may increase time-on-task and repeated exposure to lexical input, thereby enhancing vocabulary retention (Dornyei, 2020, p. 91).

2.3.3 Flow Theory

Csikszentmihalyi's Flow Theory describes a state of deep engagement in which individuals lose awareness of time due to balanced challenge and skill . Gaming environments frequently induce flow states,

which may facilitate deeper cognitive processing and stronger memory encoding (Csikszentmihalyi, 1990, p. 48).

2.4 Empirical Studies on Video Games and Vocabulary Acquisition

2.4.1 Studies Demonstrating Positive Effects

Several empirical studies suggest a positive relationship between gaming and vocabulary development. Sundqvist and Sylvén (2016) found that Swedish adolescents who frequently played English-language video games demonstrated significantly larger receptive vocabulary sizes than non-gamers . Their findings highlight the role of extracurricular exposure in lexical development.Similarly, Jensen (2017) reported that multiplayer online gamers acquired colloquial expressions and pragmatic markers through interactive chat communication . The study emphasized that authentic peer interaction contributed to productive vocabulary growth. A recent longitudinal study by Reinhardt (2019) found that task-based digital gaming environments supported incidental vocabulary acquisition, especially when learners actively engaged in problem-solving dialogue (p. 68).

2.4.2 Digital Media Beyond Gaming

In addition to gaming, streaming platforms and social media contribute to vocabulary exposure. Rodgers and Webb (2020) demonstrated that watching English-language digital content with subtitles enhanced lexical retention, particularly when repeated exposure occurred . Godwin-Jones (2018) argues that digital informal learning environments provide extensive authentic input that complements classroom instruction . Adolescents often acquire slang, idiomatic expressions, and domain-

specific vocabulary through YouTube tutorials, esports streams, and online forums.

2.5 Contradictory Findings and Criticisms

Despite positive findings, some scholars caution against overestimating the educational value of gaming. Kirschner and De Bruyckere (2017) argue that multitasking and distraction in digital environments may reduce deep learning . They suggest that without structured guidance, vocabulary gains may remain superficial. Furthermore, not all game genres provide rich linguistic input. Action-based games with limited dialogue may offer minimal lexical exposure compared to narrative-driven role-playing games (RPGs). Another concern involves unequal access to high-quality digital resources, potentially widening educational disparities (Peterson, 2016, p. 78).

Chapter Three

3.1Methodology

This chapter explains the methodological framework employed to investigate the influence of video games and digital media on vocabulary acquisition among adolescents. It describes the research design, participants, instruments, data collection procedures, and methods of data analysis. The methodological choices are grounded in established research practices in applied linguistics and educational psychology to ensure validity, reliability, and replicability .Given the complexity of vocabulary acquisition and the multifaceted nature of digital engagement, this study adopts a mixed-method research design. Combining quantitative and qualitative approaches allows for a more comprehensive understanding of both measurable vocabulary gains and learners' experiences in digital environments (Dörnyei, 2007, p. 45).

3.2 Research Design

3.2.1 Mixed-Method Approach

The present study employs a convergent mixed-method design, integrating quantitative vocabulary testing with qualitative interviews and questionnaires. Mixed-method designs are particularly useful in language research when exploring cognitive, social, and motivational variables simultaneously . The quantitative component measures vocabulary breadth and depth using standardized assessment tools. The qualitative component explores learners' perceptions, gaming habits, and motivational factors. By triangulating data sources, the study enhances credibility and interpretive depth (Creswell & Creswell, 2018, p. 217).

3.2.2 Research Variables

Independent Variable: Frequency and type of video game and digital media exposure. Dependent Variable: Vocabulary acquisition (breadth and depth). Moderating Variables: Motivation level, type of game (multiplayer vs. single-player), time spent gaming, and exposure to English outside school.

3.3 Participants

3.3.1 Target Population

The target population consists of adolescents aged 13–18 enrolled in secondary schools. Adolescence is a critical developmental stage for cognitive growth, identity formation, and language consolidation (Steinberg, 2017, p. 52).

3.3.2 Sample Size

The study includes 120 participants, divided into:

60 frequent gamers (minimum 5 hours/week of English-language gaming)

60 non-gamers or low-frequency gamers (less than 1 hour/week)

The sample size was determined based on statistical power recommendations for medium effect sizes in educational research (Field, 2018, p. 74).

3.3.3 Sampling Technique

A stratified random sampling method was employed to ensure representation across gender, grade level, and socioeconomic background. Stratification improves generalizability and reduces sampling bias (Cohen, Manion, & Morrison, 2018, p. 215).

3.4 Instruments

3.4.1 Vocabulary Breadth Test

Vocabulary size was measured using a standardized Vocabulary Levels Test (VLT), adapted from Nation . The test measures recognition of high-frequency and mid-frequency words .

The test consists of 60 items assessing:

Form-meaning recognition

Multiple-choice definitions

Matching exercises

The reliability coefficient (Cronbach's alpha) for the adapted test was .87, indicating high internal consistency (Pallant, 2020, p. 98).

3.4.2 Vocabulary Depth Test

Depth of vocabulary knowledge was assessed using a Word Associates Test (WAT), measuring collocations, semantic associations, and contextual usage (Read, 2000, p. 41).

3.4.3 Gaming Exposure Questionnaire

A structured questionnaire collected data on:

Hours spent gaming weekly

Game genre (RPG, FPS, strategy, multiplayer online)

Language of gameplay

Use of subtitles or chat features

The questionnaire included Likert-scale items measuring motivation and engagement based on Self-Determination Theory constructs (Deci & Ryan, 2000, p. 70).

3.4.4 Semi-Structured Interviews

A subset of 20 participants (10 gamers, 10 non-gamers) participated in semi-structured interviews. Interview questions focused on:

Perceived vocabulary learning from gaming

Interaction with international players

Emotional engagement and flow experiences

Interviews were audio-recorded and transcribed for thematic analysis (Braun & Clarke, 2006, p. 87).

3.5 Data Collection Procedures

Data collection was conducted over eight weeks.

Phase 1: Pre-Testing

Participants completed the Vocabulary Breadth and Depth Tests to establish baseline proficiency levels.

Phase 2: Monitoring Gaming Exposure

Gamers recorded weekly gaming hours using digital logs. Non-gamers reported alternative media exposure (e.g., social media, streaming).

Phase 3: Post-Testing

After eight weeks, participants completed the same vocabulary tests to measure gains.

Phase 4: Interviews

Selected participants participated in interviews to explore qualitative insights.

All procedures adhered to ethical research guidelines, including informed consent and confidentiality protection (British Educational Research Association, 2018, p. 14).

3.6 Data Analysis

3.6.1 Quantitative Analysis

Statistical analysis was conducted using SPSS software.

The following analyses were performed:

Descriptive Statistics (mean, standard deviation)

Independent Samples t-test to compare gamers and non-gamers

Paired Samples t-test to measure pre- and post-test differences

Pearson Correlation to examine relationships between gaming hours and vocabulary gains

Multiple Regression Analysis to determine predictive factors

Statistical significance was set at $p < .05$ (Field, 2018, p. 183).

Effect sizes were calculated using Cohen's d to determine practical significance (Cohen, 1988, p. 25).

Chapter Four

4.1Results / Findings

This chapter presents the findings of the study objectively and systematically. The results are reported without interpretation, in accordance with standard research reporting practices in applied linguistics . The data are organized according to the research questions and hypotheses presented in Chapter One.

The findings include:

Descriptive statistics

Inferential statistical analysis

Correlation and regression analysis

Qualitative thematic findings

4.2 Descriptive Statistics

4.2.1 Participant Demographics

A total of 120 adolescents participated in the study:

60 frequent gamers

60 non-gamers

Gender distribution:

64 males (53%)

56 females (47%)

Average age: 15.6 years

Standard deviation: 1.4

An independent samples t-test revealed a statistically significant difference between groups at post-test stage ($t = 6.38$, $p < .001$).

Effect size (Cohen's $d = 1.17$) indicates a large effect (Cohen, 1988, p. 25).

4.3 Correlation Analysis

Pearson correlation was conducted to examine the relationship between weekly gaming hours and vocabulary gains.

$r = .62$

$p < .001$

This indicates a strong positive correlation between gaming frequency and vocabulary improvement (Field, 2018, p. 186).

4.4 Regression Analysis

A multiple regression analysis was conducted to examine predictive factors of vocabulary gains.

Predictors Included:

Weekly gaming hours

Multiplayer engagement

Motivation score

Exposure to English outside school

Results:

The model was statistically significant:

$F(4,115) = 18.74$

$p < .001$

$R^2 = .39$

This indicates that 39% of the variance in vocabulary gains was explained by the predictor variables.

Significant predictors:

Weekly gaming hours ($\beta = .41$, $p < .001$)

Motivation score ($\beta = .33$, $p < .01$)

Multiplayer engagement ($\beta = .28$, $p < .05$)

Exposure to English outside school was not statistically significant ($p = .08$).

4.5 Qualitative Findings

Thematic analysis of interview data generated four major themes:

4.5.1 Incidental Learning

Participants reported learning new words while completing missions or reading instructions. Many stated that they searched unfamiliar words online.

4.5.2 Social Interaction

Multiplayer gamers emphasized learning vocabulary through chat communication and voice interaction with international players.

4.5.3 Motivation and Engagement

Participants described gaming as enjoyable and immersive, which encouraged prolonged exposure to English input.

4.5.4 Contextual Reinforcement

Repeated exposure to words within narrative contexts facilitated retention.

Chapter Five

5.1 Discussion

This chapter interprets the findings presented in Chapter Four and links them to the research questions, hypotheses, and existing literature. Unlike the previous chapter, which reported statistical outcomes objectively, this chapter provides analytical interpretation and theoretical explanation. The discussion integrates quantitative and qualitative findings within established frameworks of vocabulary acquisition and digital learning theory (Creswell & Creswell, 2018, p. 220).

5.2 Discussion of Research Question One

Does frequent video game exposure significantly improve vocabulary acquisition in adolescents? The results demonstrated that adolescents who engaged regularly in English-language video games showed significantly higher vocabulary gains compared to non-gamers. The large effect size (Cohen's d = 1.17) suggests not only statistical significance but also strong practical impact . These findings align with previous research indicating that extracurricular digital exposure enhances lexical development (Sundqvist & Sylvén, 2016, p. 123). The improvement observed in both vocabulary breadth and depth suggests that gaming environments provide repeated, contextualized exposure to lexical items, which strengthens memory consolidation . Furthermore, the strong positive correlation (r = .62) between gaming hours and vocabulary gains supports usage-based theories of language acquisition, which emphasize frequency and meaningful interaction as drivers of lexical growth (Ellis, 2015, p. 64).

5.3 Discussion of Research Question Two

What types of vocabulary are most commonly acquired through digital gaming? The vocabulary depth results indicate that gamers demonstrated stronger knowledge of collocations and semantic associations. This suggests that gaming contributes not only to vocabulary size but also to deeper lexical knowledge. Role-playing games (RPGs) were associated with the highest vocabulary gains. RPGs typically contain narrative dialogues, mission instructions, character interactions, and complex storylines. These features provide rich linguistic contexts that promote deeper processing (Peterson, 2016, p. 78).

Additionally, qualitative findings revealed that learners acquired:

Action-related vocabulary (e.g., defend, attack, strategy)

Technical terminology

Informal expressions and slang

Pragmatic expressions used in chat communication

These findings are consistent with studies showing that digital gaming promotes domain-specific and colloquial vocabulary acquisition (Jensen, 2017, p. 45).

5.4 Discussion of Research Question Three

The regression analysis showed that multiplayer engagement significantly predicted vocabulary gains ($\beta = .28$, $p < .05$). This supports the theoretical framework of Situated Learning Theory, which emphasizes learning through social participation .

Multiplayer environments require:

Negotiation of meaning

Collaborative problem-solving

Real-time communication

Such interaction increases productive vocabulary use, which strengthens retention . Interview data confirmed that participants frequently learned new words during live interaction with international players. This aligns with research suggesting that communicative necessity enhances language development (Mackey & Gass, 2016, p. 240).

5.5 Discussion of Research Question Four

How does motivation mediate vocabulary acquisition in gaming contexts? Motivation emerged as a significant predictor ($\beta = .33$, $p < .01$). This supports Self-Determination Theory, which emphasizes intrinsic motivation as a key factor in sustained engagement (Deci & Ryan, 2000, p. 70).

Video games satisfy three psychological needs:

Autonomy – player choice and control

Competence – progression and achievement

Relatedness – social connection

These elements promote sustained exposure and deeper cognitive processing . Participants described entering “flow states,” consistent with Flow Theory . Flow enhances concentration and memory encoding, potentially explaining strong vocabulary retention among gamers (Csikszentmihalyi, 1990, p. 48).

5.6 Discussion of Research Question Five

Does incidental exposure lead to long-term retention of lexical items?Both groups showed improvement from pre-test to post-test, but gamers exhibited significantly larger gains. This suggests that incidental exposure within meaningful contexts supports durable learning Repeated contextual encounters with vocabulary likely facilitated semantic integration. Multimedia cues (visual, auditory, interactive) may have reduced cognitive load and enhanced retention . However, the findings also suggest that not all games contribute equally. Action-based games with limited linguistic content showed lower gains, indicating that input quality is crucial (Mayer, 2009, p. 71).

5.7 Comparison with Previous Studies

The findings support earlier research demonstrating positive associations between digital gaming and vocabulary acquisition (Reinhardt, 2019, p. 68). However, this study extends previous research by:

Measuring both breadth and depth

Including regression analysis of motivational variables

Comparing multiple game genres

Focusing specifically on adolescence

The R^2 value of .39 suggests that digital engagement explains a substantial portion of vocabulary variance, though additional factors (e.g., classroom instruction, reading habits) also contribute.

5.8 Pedagogical Implications

The findings suggest several implications for language education:

1- Teachers may integrate game-based learning elements into curriculum design.

2- Educators can encourage strategic use of narrative-driven games for vocabulary enrichment.

3- Multiplayer communication tasks may enhance productive vocabulary.

4- Motivation-enhancing techniques from gaming design can inform classroom practice.

5- These implications align with digital literacy research emphasizing the integration of authentic digital experiences into language learning (Godwin-Jones, 2018, p. 10).

5.9 Limitations of the Study

Despite significant findings, limitations exist:

Eight-week duration limits long-term generalization.

Self-reported gaming hours may include minor inaccuracies.

Cultural context may influence generalizability.

The study did not measure academic vocabulary separately from colloquial vocabulary.

Conclusion

This study set out to investigate the influence of video games and digital media on vocabulary acquisition among adolescents. The research addressed a significant gap in applied linguistics and digital learning studies by focusing specifically on adolescence as a developmental stage and by measuring both vocabulary breadth and depth. The findings clearly demonstrate that adolescents who frequently engage in English-language video games exhibit significantly higher vocabulary growth compared to non-gamers. Both receptive and productive vocabulary knowledge improved over the eight-week period, with gamers showing substantially larger gains. Statistical analysis confirmed strong correlations between gaming frequency and vocabulary development, indicating that repeated exposure and sustained engagement play a central role in lexical acquisition. Moreover, the study revealed that not all gaming experiences contribute equally.

Narrative-rich and socially interactive games, particularly role-playing games (RPGs), produced greater lexical gains than action-based or sports-oriented games. Multiplayer interaction further enhanced vocabulary development by encouraging real-time communication and negotiation of meaning.Motivation emerged as a crucial mediating factor. Adolescents who reported higher levels of intrinsic engagement demonstrated greater vocabulary retention. These findings align with motivational theories emphasizing autonomy, competence, and relatedness as key drivers of learning engagement. The qualitative data reinforced the quantitative findings. Participants described learning new words incidentally while completing missions, interacting with international players, and engaging in narrative problem-solving.

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