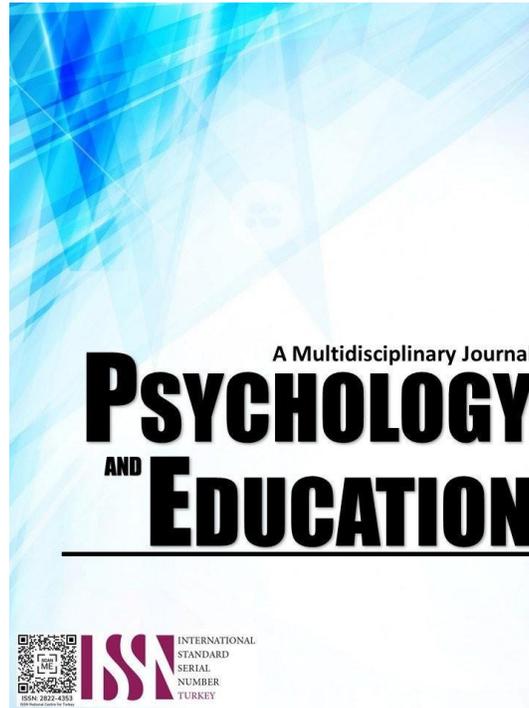


EFFECTIVENESS OF EDUCATIONAL GAMES IN TEACHING READING COMPREHENSION AND LEVEL OF ENGAGEMENT AMONG LEARNERS



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Effectiveness of Educational Games in Teaching Reading Comprehension and Level of Engagement Among Learners

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Abstract

This study explored the effectiveness of educational games in teaching reading comprehension and their influence on the engagement levels of Grade 6 learners in public elementary schools within District III, Division of Valencia City, for the school year 2024–2025. Utilizing a descriptive-correlational research design, the study involved 445 Grade 6 learners as respondents. A validated survey questionnaire was used to measure the effectiveness of educational games based on four indicators: general perception, impact on reading comprehension, game design and features, and motivation. Additionally, the level of learner engagement was evaluated. Results revealed that educational games were perceived as "very highly educational" across all indicators. Learners strongly agreed that games enhanced their reading comprehension, made learning more enjoyable, improved critical thinking, and increased their motivation to read. The data also indicated a very high level of engagement among learners who participated in game-based activities. A significant positive relationship was found between the effectiveness of educational games and student engagement, particularly in terms of motivation and game design. These findings affirm the role of educational games as a powerful instructional tool that supports both cognitive and affective domains of learning. The study concludes that the integration of educational games in reading instruction not only enhances comprehension but also fosters a more dynamic and participative learning environment. Teachers, curriculum developers, and stakeholders are encouraged to adopt gamified strategies to enrich reading instruction and sustain learner interest.

Keywords: *educational games, reading comprehension, learner engagement, gamified instruction, interactive learning*

Introduction

The role of educational games in enhancing reading comprehension skills and enhancing learner engagement has drawn notable attention over the past few years, reflecting a shift towards more interactive and engaging pedagogical approaches. Traditional methods of teaching reading tend to emphasize rote memorization and passive learning strategies, which can contribute to disengagement and low student motivation. Recent research indicates that integrating educational games into the curriculum can transform the learning experience, making reading not only an academic task but also an enjoyable activity that fosters reflective thinking and problem-solving abilities. For instance, research indicates that interactive games significantly improve learners' attitudes toward reading while enhancing their comprehension abilities.

Despite the promising outcomes associated with educational games, many educators remain hesitant to incorporate these tools into their teaching practices due to a lack of empirical evidence demonstrating their effectiveness in improving reading comprehension specifically. This gap in understanding raises questions about how to effectively leverage education to maximize engagement and educational results in reading comprehension.

This research study aims to address these concerns by systematically investigating the contribution of educational games on reading comprehension and learners' involvement levels. By exploring how these games have the potential to be effectively integrated into reading curricula, this study seeks to offer teachers applicable insights that can enhance methods of instruction aimed at ultimately benefiting student learning experiences. The findings will not only expand the body of research but also serve as a practical guide for educators to promote a more captivating and effective educational setting for their students.

Research Questions

This study was carried out to examine the effectiveness of educational games and how they affect the learner's engagement in reading comprehension in District 3 in the Division of Valencia City for School Year 2024-2025. Specifically, this study seeks to answer the following questions:

1. What was the level of effectiveness of educational games in terms of the general perception of educational games, their impact on reading comprehension, game design and features, and motivation?
2. What was the level of learner's engagement in terms of reading comprehension?
3. Was there a significant relationship between the effectiveness of educational games in teaching reading comprehension to learners and student engagement?

Methodology

Research Design

This study employed the descriptive-correlation design. It examined the level of effectiveness of teaching reading comprehension of reading comprehension to learners and student engagement in District 3, Valencia City Bukidnon for the school year 2024-2025.

Data on the level of educational games in teaching reading comprehension was obtained and learner and student engagement through an adapted questionnaire

Respondents

The study's respondents were public elementary school learners in Grade VI of District III, Division of Valencia City, SY 2024-2025.

Table 1 presents the distribution of respondents by section.

Table 1. *Breakdown of the Respondents*

School	Population
Araneta Elementary School	44
Batangan Integrated School	154
Lumbayao Elementary School	60
San Isidro Integrated School	70
Sinabuagan Integrated School	77
Vintar Elementary School	40

Instruments

The researcher adapted an instrument from Li Y. et. Al (2024) in education games and Delfino A. (2019) for students' engagement in this study. It consisted of a survey questionnaire with two components.

Part I covered using educational games in the classroom and how it affects students' reading comprehension. There are five indicators for each variable. The five-point Likert scale serves as the foundation for the choice columns. Respondents only need to look at the column to see the response they have selected.

Part I dealt with the student's engagement. Each area contains five items. The response options are presented in columns corresponding to a five-point Likert scale. Respondents indicate their selected answer by checking the appropriate column.

Procedure

This study adhered to the established standard operating procedures for conducting research at VCI. First, an approval and endorsement letter was obtained from the Dean of Graduate Studies. This letter was submitted to the Schools Division Superintendent of the Division of Valencia City for further approval. Once authorization was granted, the researcher sought permission from the Public Schools District Supervisor of the relevant district. Subsequently, approval was requested from the School Principals or Heads of the selected schools to allow the study to be conducted on their campuses. Finally, the questionnaires were administered to the chosen respondents.

Scoring Procedure

The data were analyzed and interpreted using the rating scales provided below.

A. For the educational games in teaching reading of teachers, the mean is

interpreted using the Five-Point Likert Scale.

Scale	Range	Qualitative Interpretation
5	4.20-5.00	Very Highly Educational
4	3.40-4.19	Highly Educational
3	2.60-3.39	Moderately Educational
2	1.80-2.59	Lowly Educational
1	1.00-1.79	Very Low Educational

B. For the student's engagement in the lessons the mean is interpreted using the Five-Point Likert Scale.

Scale	Range	Qualitative Interpretation
5	4.20-5.00	Very Highly Engaged
4	3.40-4.19	Highly Engaged
3	2.60-3.39	Moderately Engaged
2	1.80-2.59	Lowly Engaged
1	1.00-1.79	Very Lowly Engaged

Data Analysis

The study employed the following statistical tools: mean and standard deviation are used to determine how well educational games teach and how they impact Grade VI students' reading comprehension.

Pearson r Product-Moment Correlation Coefficient or Pearson r was utilized to find the connection between the effectiveness of educational games in teaching and the student engagement of Grade VI learners

Results and Discussion

This section presents the collected data and a painstaking discussion, interpretation, and analysis of the study's findings. The results are displayed in tables, which are subsequently examined and explained. The presentation of the findings is organized according to the sequence of the research questions outlined in the study.

The first part determines the level of educational games in teaching reading teachers: general perception of educational games, impact on reading comprehension, game design and features, and motivation. The second part displays the correlation between the effectiveness of educational games in teaching and the student engagement of Grade VI learners.

Table 2 reveals a highly positive perception of educational games in teaching reading, with all indicators scoring within the "Very Highly Educational" range. The most strongly agreed-upon benefit is that "Educational games make learning fun and enjoyable" (Mean = 4.91, SD = .316). This proposes that the entertainment value of games is a significant factor in their perceived educational effectiveness. Following closely is the tendency to prefer game-based learning over traditional educational methods with the statement "I prefer learning through games than traditional methods" having a mean of 4.82 (SD = .428). This indicates a strong student desire for more dynamic and captivating educational opportunities.

Table 2: *Level of educational games in teaching reading concerning the general perception of education games.*

Indicators	Mean	SD	Qualitative Interpretation
Educational games make learning fun.	4.91	.316	VHE
I prefer learning through games to traditional methods.	4.82	.428	VHE
Educational games let me understand the topic easier	4.76	.462	VHE
Educational games help me understand difficult concepts.	4.75	.463	VHE
Educational games help me focus and concentrate better.	4.74	.509	VHE
Overall Mean & SD	4.79	.293	VHE

Legend: 5 – 4.20–5.00 – Very Highly Educational (VHE), 4 – 3.40–4.19 – Highly Educational (HE), 3 – 2.60–3.39 – Moderately Educational (ME), 2 – 1.80–2.59 – Low Educational (LE), 1 – 1.00–1.79 – Very Low Educational (VLE)

The middle ground of student perceptions includes the belief that "Educational games let me understand the topic easier" (Mean = 4.76, SD = .462), and that "Educational games help me understand difficult concepts" (Mean = 4.75, SD = .463). These scores highlight the cognitive benefits of using games to simplify and clarify complex material. Although slightly lower than the others, the statement "Educational games help me focus and concentrate better" still scores highly (Mean = 4.74, SD = .509), suggesting that while games are generally seen as beneficial for focus, this aspect may be slightly less prominent compared to the other advantages.

Overall, the data suggests a strong endorsement of educational games as an important tool for teaching reading. The high means and relatively low variability measures across all indicators demonstrate a consistent and positive consensus among students. The emphasis on fun and enjoyment, coupled with the perceived cognitive benefits and preference for game-based learning, portrays the possibilities of educational games to transform the learning experience and elevate educational performance. The overall mean of 4.79 (SD = .293) further reinforces the conclusion that educational games are viewed as "Very Highly Educational" in teaching reading.

For instance, as explained by Chen, Li, & Chen (2020) developed a collective online reading explanation system that uses gamification techniques to progress reading skills. According to their findings, pupils' reading comprehension was much enhanced by the game-based method. According to Hertati and Asrowi (2022), students who use educational games show improved learning outcomes and increased engagement. Additionally, as explained by William et al. (2016) provided more evidence in favor of the concept that games can generate engaging learning environments that encourage a love of reading.

López-Fernández et al (2021) said that individuals who learned through educational games showed enhanced motivation and greater enjoyment. Additionally, the vast majority of pupils favored GBL over conventional instruction. According to Eltahir et al. (2021), pupils who were taught using GBL had greater motivation and better conceptual knowledge than those who were educated using traditional teaching techniques.

The data from Table 3 indicates a strong positive effect of educational games on reading comprehension, with all indicators falling into the "Very Highly Educational" range.

The most significant impact, with a mean of 4.86 (SD = .343), is that "Playing educational games has improved my reading comprehension skills." This suggests a direct and noticeable improvement in students' overall reading abilities due to the utilization of educational games. Following closely is the preference for learning through games over traditional methods, with a mean of 4.83 (SD

= .386), reinforcing the idea that students find game-based learning more effective and engaging for reading comprehension.

Table 3: Level of Educational Games in Teaching Reading Concerning the Impact on Reading Comprehension.

Indicators	Mean	SD	Qualitative Interpretation
Playing educational games has improved my reading comprehension skills.	4.86	.343	VHE
I prefer learning through games to traditional methods.	4.83	.386	VHE
Educational games help me understand what I read better.	4.77	.447	VHE
Educational games help me remember what I read.	4.77	.447	VHE
I can answer queries about the text more easily after playing educational games.	4.75	.500	VHE
Overall Mean & SD	4.80	.291	VHE

Legend: 5 – 4.20–5.00 – Very Highly Educational (VHE), 4 – 3.40–4.19 – Highly Educational (HE), 3 – 2.60–3.39 – Moderately Educational (ME), 2 – 1.80–2.59 – Low Educational (LE), 1 – 1.00–1.79 – Very Low Educational (VLE)

Several indicators share similar mean scores, highlighting different aspects of reading comprehension positively affected by educational games. Both "Educational games help me comprehend what I read better" and "Educational games help me recall what I read" have a mean of 4.77 (SD = .447), indicating that games enhance both comprehension and retention of information. Slightly lower, but still within the "Very Highly Educational" range, is the statement "I can answer questions about the text more easily after playing educational games" (Mean = 4.75, SD = .500). This suggests that games improve students' ability to analyze and recall information from the text, making it easier to answer comprehension questions.

Overall, the consistently high scores and low standard deviations across all indicators demonstrate a strong and positive consensus regarding the advantage of educational games for reading comprehension. The overall mean of 4.80 (SD = .291) further supports the conclusion that educational games are highly effective in cultivating reading comprehension skills. These findings align with research that suggests game-based learning enhances reading comprehension, vocabulary, and fluency by providing Interactive and captivating learning environments. The interactive form of games, combined with rewards and challenges, can motivate students and make a more enjoyable and effective learning experience, ultimately leading to improved reading outcomes.

The interactive concept of educational games is often cited as a main factor in their effectiveness. Tobar et al. (2017) highlighted that game-based learning promotes problem-solving, exploration, and interaction, enhancing students' engagement with reading materials. This increased engagement, in turn, leads to improved motivation and a positive attitude towards reading.

Moreover, educational games have been shown to aid in reading comprehension skills. As presented by Sulistianingsih et al. (2019) interactive games enhance vocabulary and spelling throughout reading comprehensive exercises. Their study revealed positive outcomes in terms of improved reading performance.

While the research evidence is promising, it is vital to acknowledge certain limitations and challenges. The effectiveness of educational games can be affected by factors such as game design, student characteristics, and implementation strategies. As revealed Calderón and Ruiz (2015) stressed the importance of well-designed games that suit learning objectives and provide appropriate levels of challenge.

A quantitative study by Ramos et al. (2023) assessed the reading level of comprehension of Grade 6 students in selected public elementary schools in Davao del Norte. The researchers employed a descriptive survey method to analyze data collected from 156 teachers and students. The results exposed that while most students exhibited moderate reading comprehension levels, there was a notable need for interventions, including educational games, to address gaps in comprehension skills (Ramos et al., 2023).

Table 4 shows educational games based on their design and features, with all indicators receiving a "Very Highly Educational" qualitative interpretation.

The element rated most positively is that "The games I play have interesting and engaging stories" (Mean = 4.91, SD = .316). This suggests that compelling narratives are a crucial factor in making educational games effective and enjoyable for students. Following closely is the visual appeal and ease of use, with "The games are visually appealing and easy to use" scoring a mean of 4.82 (SD = .428), indicating that aesthetics and user-friendliness are important aspects of the design of the game that contribute to a positive learning experience.

The perceived chances for skill improvement are also highly rated. Students agree that "The games provide opportunities to practice reading skills" (Mean = 4.76, SD = .461), and acknowledge that "The games challenge me to think critically" (Mean = 4.75, SD = .463). These scores highlight the value of having educational games in providing practical application and cognitive stimulation. The indicator at the bottom, though still very high, means "The games give me feedback on my performance" (Mean = 4.74, SD = .509). While feedback is appreciated, this slightly lower score suggests that there may be room for improvement in how games provide feedback to learners.

Table 4. *Level of educational games in teaching reading regarding game design and features.*

Indicators	Mean	SD	Qualitative Interpretation
The games I play have interesting and engaging stories.	4.91	.316	VHE
The games challenge me to think critically.	4.75	.463	VHE
The games provide opportunities to practice reading skills.	4.76	.461	VHE
The games give me feedback on my performance.	4.74	.509	VHE
The games are visually appealing and easy to use.	4.82	.428	VHE
Overall Mean & SD	4.79	.293	VHE

Legend: 5 – 4.20–5.00 – Very Highly Educational (VHE), 4 – 3.40–4.19 – Highly Educational (HE), 3 – 2.60–3.39 – Moderately Educational (ME), 2 – 1.80–2.59 – Low Educational (LE), 1 – 1.00–1.79 – Very Low Educational (VLE)

Overall, the data from Table 5 indicates a strong appreciation for the design and features of educational games in teaching reading. The high means and low standard deviations across all indicators demonstrate a consistent and positive perception among students. The emphasis on engaging stories, appealing visuals, opportunities for skill practice, critical thinking challenges, and constructive feedback emphasizes how crucial thoughtful game design is in generating effective and enjoyable learning involvements. The overall mean of 4.79 (SD = .293) reinforces the conclusion that educational games are viewed as "Very Highly Educational" regarding their design and features.

Research has consistently established that being involved in educational games can lead to improved student learning outcomes. Based on the study by Hsu and Tsai (2015) found that students who played educational games demonstrated higher levels of comprehension and motivation for reading than those who did not. Games that make students read and interpret text, such as quizzes, puzzles, or storytelling activities. In addition, the study by Liu and Wu (2017) reported that well-designed educational games will improve students' reading skills and foster a good attitude toward learning.

Lim et al. (2024) researched the consequences of interactive games on the ability of Grade 11 learners at Lorenzo S. Sarmiento Sr. National High School to comprehend reading materials. Utilizing a pre-test and post-test design, the study measured changes in comprehension levels after implementing interactive game-based activities. Findings exposed a statistically relevant increase in reading comprehension scores among those who partook in the game-based intervention compared to those who did not, indicating that interactive games can effectively engage learners and improve their reading abilities according to Lim et al. (2024).

A recent study by Paguipag Basali (2024) investigated how gamification strategies influenced student motivation and reading comprehension of Philippine grade 8 students. The quantitative research involved administering pre- and post-tests alongside surveys to assess motivation levels. Results showed that motivation levels were markedly elevated through gamified learning environments and comprehension scores, indicating that incorporating game mechanics into reading instruction can lead to higher engagement and better academic outcomes (Paguipag Basali, 2024).

Table 5 assesses the motivational effects of educational games on reading, with all indicators falling into the "Very Highly Educational" category. The most prominent motivational factor is the increased enjoyment of reading, as indicated by the statement "Educational games make reading more enjoyable" (Mean = 4.87, SD = .334).

Table 5. *Level of educational games in teaching reading regarding motivation.*

Indicators	Mean	SD	Qualitative Interpretation
Educational games make reading more enjoyable.	4.87	.334	VHE
Educational games make learning reading comprehension more interactive and engaging.	4.85	.366	VHE
Educational games help me advance higher order thinking skills.	4.83	.380	VHE
Educational games help me improve my reading speed and fluency.	4.83	.411	VHE
Playing educational games motivates me to read more.	4.82	.386	VHE
Overall Mean & SD	4.83	.266	VHE

Legend: 5 – 4.20–5.00 – Very Highly Educational (VHE), 4 – 3.40–4.19 – Highly Educational (HE), 3 – 2.60–3.39 – Moderately Educational (ME), 2 – 1.80–2.59 – Low Educational (LE), 1 – 1.00–1.79 – Very Low Educational (VLE)

This recommends that the fun and engaging nature of games is a key element in motivating students to read. Following closely is the perception that educational games make learning reading comprehension makes it more interactive and more engaging, with a mean of 4.85 (SD = .366), reinforcing the idea that interactivity is a significant motivator for students.

Several indicators share the same mean score of 4.83, highlighting different facets of motivation influenced by educational games. The statements "Educational games help me develop critical thinking skills," "Educational games help me improve my reading speed and fluency," and "Playing educational games motivates me to read more" all received a mean of 4.83 (SD = .380, .411, and .386, respectively). This suggests that games not only encourage students to read more but also help them develop essential reading skills and cognitive abilities.

Overall, the data in Table 5 demonstrates a solid and great impact of educational games on students' drive to be involved with reading. The high means and low standard deviations across all indicators indicate a consistent and favorable consensus. The enjoyment derived from playing educational games, combined with their interactive nature and ability to enhance reading skills and critical thinking, emphasizes the power of games to transform reading from a chore into an engaging and rewarding activity. The overall mean of 4.83 (SD = .266) further confirms the "Very Highly Educational" impact of games on motivation regarding teaching reading.

The educational games to increase students' motivation and involvement is a crucial component. According to research by Kaur and Abdul Aziz (2020), language games significantly improve students' speaking abilities, which can subsequently improve reading comprehension by boosting confidence and linguistic competency.

As stated by Tümen Akyıldız and Çelik (2021) investigated the impact of using WhatsApp to read tasks on students' reading comprehension scores. Their research indicated that the experimental group's performance exceeded that of the control group, suggesting that the interactive and engaging nature of the platform contributed to improved reading comprehension.

While the research evidence supports the goodness of educational games, certain challenges and considerations must be addressed. The usefulness of educational games can be affected by factors such as game design, student characteristics, and implementation strategies. As specified by Calderón and Ruiz (2015) the significance of well-designed games that align with learning objectives and provide appropriate levels of challenge.

Table 6. *Level of student's engagement.*

Indicators	Mean	SD	Qualitative Interpretation
I am eager to play educational games.	4.88	.323	VHE
I look forward to playing educational games.	4.82	.378	VHE
I feel rewarded when I complete a game.	4.85	.378	VHE
I want to play educational games more often.	4.84	.370	VHE
I recommend educational games to my friends.	4.83	.396	VHE
I feel connected to the subject matter.	4.81	.399	VHE
I find the class discussions interesting and engaging.	4.81	.418	VHE
I am motivated to complete my assignments.	4.80	.437	VHE
I feel like I belong in this class.	4.73	.467	VHE
I am happy to learn new things in this class.	4.92	.276	VHE
Overall Mean & SD	4.83	.266	VHE

Legend: 5 – 4.20–5.00 – Very Highly Educational (VHE), 4 – 3.40–4.19 – Highly Educational (HE), 3 – 2.60–3.39 – Moderately Educational (ME), 2 – 1.80–2.59 – Low Educational (LE), 1 – 1.00–1.79 – Very Low Educational (VLE)

Table 6 showed a high level of student engagement with educational games, as implied by the "Very Highly Engage" qualitative interpretation for all listed indicators. The most prominent factor contributing to this engagement is the excitement students feel towards learning new things in the class, with the statement "I am excited to learn new things in this class" scoring the highest mean of 4.92 (SD = .276). This suggests that educational games tap into students' curiosity and desire for knowledge. Closely following is the anticipation of playing these games, as "I am excited to play educational games" scores a mean of 4.88 (SD = .323). This enthusiasm highlights the appeal and enjoyment that students associate with game-based learning.

Several indicators demonstrate similar levels of engagement. Students feel rewarded upon completing a game ("I feel rewarded when I complete a game," Mean = 4.85, SD = .378) and express a desire for more frequent play ("I want to play educational games more often," Mean = 4.84, SD = .370). Furthermore, they are inclined to recommend these games to their peers ("I recommend educational games to my friends," Mean = 4.83, SD = .396). These factors collectively indicate a strong endorsement and positive perception of educational games among students. A slightly lower mean of 4.82 (SD = .378) implies that students look forward to playing educational games.

The remaining indicators, while still demonstrating high engagement, score slightly lower. Learners experience a sense of connection to the material and find class discussions interesting ("I feel connected to the subject matter," Mean = 4.81, SD = .399; "I find the class discussions interesting and engaging," Mean = 4.81, SD = .418). They are also motivated to complete their assignments ("I am motivated to complete my assignments," Mean = 4.80, SD = .437). The lowest, yet still positive, score is for belonging ("I feel like I belong in this class," Mean = 4.73, SD = .467). Overall, the high means and low standard deviations across all indicators underscore how well educational games work to promote student engagement. The overall mean of 4.83 (SD = .266) reinforces the conclusion that students are "Very Highly Engaged" when using educational games in classrooms.

The remaining indicators, while still demonstrating high engagement, score slightly lower. Students feel connected to the subject matter and then find class discussions interesting ("I feel connected to the subject matter," Mean = 4.81, SD = .399; "I find the class discussions interesting and engaging," Mean = 4.81, SD = .418). They are also motivated to complete their assignments ("I am motivated to complete my assignments," Mean = 4.80, SD = .437). The lowest, yet still positive, score is for belonging ("I feel like I belong in this

class," Mean = 4.73, SD = .467). Overall, the high means and low standard deviations across all indicators underscore the efficacy of educational games in nurturing student engagement. The overall mean of 4.83 (SD = .266) reinforces the conclusion that students are "Very Highly Engaged" when using educational games in the classroom setting.

An organized literature review by Hassan et al. (2023) explored various metrics for assessing engagement in GBL contexts. The study found that active participation, interaction, and sustained attention were critical indicators of engagement among pupils. They noted that GBL not only maintained students' interest but also improved cognitive skills and emotional well-being, underscoring the multifaceted benefits of game-based approaches (Hassan et al., 2023). Moreover, Wang and Lieberoth (2015) studied the effects of audio elements in games like Kahoot! on classroom dynamics and engagement. Their findings indicated that audio significantly enhanced interaction and energy levels in the classroom, promoting a more dynamic and engaging learning environment. This suggests that sensory elements can play a key part in maintaining student interest during game-based activities (Wang & Lieberoth, 2015).

Hsieh et al. (2015) investigated behavioral patterns associated with student engagement in GBL settings. Their research revealed consistent engagement behaviors across genders, such as expressions of frustration or excitement during gameplay. However, they also noted differences; for instance, male students exhibited more self-directed conversations while engaged with the game than their female counterparts. This signifies the need for educators to consider gender dynamics when implementing GBL strategies to maximize engagement for all learners (Hsieh et al., 2015).

Table 7 explores the association between the effectiveness of educational games in teaching reading comprehension and student engagement, revealing significant positive correlations across all examined variables. The strongest relationship is observed between motivation and student engagement ($r = .512$, $p = .000$), indicating that when educational games are perceived as highly motivating, students tend to be more engaged in learning. Similarly, strong positive correlations exist between the impact on reading comprehension and student engagement ($r = .479$, $p = .000$), as well as game design and features ($r = .473$, $p = .000$).

Table 7. *Relationship Between the Level of Effectiveness of Educational Games in Teaching Reading Comprehension to Learners and Student Engagement.*

Independent Variables	Pearson Coefficient (R-value)	Probability (P-value)	Level of Significance
Effectiveness of educational games			
General Perception of Educational Games	.408**	.000	Significant
Impact on Reading Comprehension	.479**	.000	Significant
Game Design and Features	.473**	.000	Significant
Motivation	.512**	.000	Significant

** Correlation is significant at the 0.01 level (2-tailed).

This suggests that games that are well-designed and have a clear great impact on reading comprehension are more likely to foster student engagement. A moderate positive correlation is found between student engagement and the general perception of educational games ($r = .408$, $p = .000$), implying that students who generally view educational games favorably are also more likely to be engaged.

These findings emphasize the significance of various factors in enhancing the effectiveness of student engagement and educational games. Games with interesting and engaging stories, visually appealing designs, and opportunities for practice and critical thinking tend to make a more immersive and effective learning experience. Moreover, when students find educational games enjoyable and motivating, they have a higher chance of actively participating and improving their reading comprehension skills. The interactive elements, challenges, and rewards inherent in game-based learning can tap into students' intrinsic motivation, encouraging them to spend more time reading and engaging with the content.

The significant p-values ($p = .000$) for all correlations indicate that these relationships are statistically significant, reinforcing the conclusion that how well educational games work and students' engagement are closely intertwined. By incorporating gamification techniques into EFL classrooms, educators can foster engaging and lively learning environments that encourage active student involvement and enhance reading comprehension skills. Digital reading applications with captivating narratives and word identification games motivate students to concentrate on pronunciation and tempo, which makes learning fun and efficient. Lastly, these outcomes reveal the potential of well-designed and thoughtfully implemented educational games designed to enhance more than just reading comprehension but also cultivate a more engaged and motivated student body.

Educational games are also noted due to their capacity to improve learner engagement. Based on a review by Dichev et al. (2020), game-based learning fosters higher motivation levels among students, which is crucial for effective learning outcomes. The interactive form of these games encourages students to have more time engaging with reading materials, thereby improving their skills (Dichev et al., 2020)

Research conducted by Nitasih et al. (2022) further supports this notion, demonstrating that gamification strategies significantly increased engagement among elementary school students during remote learning periods. The findings suggested that the integration

of game elements not only motivated students but also facilitated better retention and understanding of reading materials (Nitiasih et al., 2022)

Research indicates that specific game design elements take a serious role in fostering student engagement. Khan et al. (2017) researched the significance of cooperation, choice, and feedback in interactive digital learning platforms using games. Their findings revealed that when these elements were integrated into games, students reported higher levels of engagement compared to conventional teaching techniques. Students expressed enjoyment and increased motivation, noting that GBL made learning more interactive and enjoyable (Khan et al., 2017). Similarly, Giannakas et al. (2017) highlighted the significance of personalization in GBL, suggesting that allowing students to learn and engage in collaborative problem-solving enhances their overall engagement. Their literature review pointed out that personalized learning experiences help create a more impactful educational environment, thereby increasing student involvement (Giannakas et al., 2017)

Conclusions

The study concludes that incorporating educational games is a useful strategy to raise student engagement and reading comprehension based on the search results that were provided. The results suggest that to sustain engagement and promote skill development, game-based learning should make use of interactivity and instant feedback. The gamified structure appeals to a child's desire for success and acknowledgment, which increases the appeal of reading and motivation. Integrating gamification techniques in EFL teaching allows educators to create dynamic and fun learning settings, fostering greater student participation and boosting reading comprehension abilities.

Furthermore, game-based reading interventions improve specific reading skills, such as phonemic awareness, vocabulary, and fluency. Educational games introduce new terms in an appropriate context, expanding vocabulary and improving comprehension. Such interventions help standardize student performance and reduce variability in outcomes, which is consistent with existing research on game-based interventions in educational settings. Interactive games combined with phonics-based exercises, sight word recognition tasks, word-matching, and sentence-building activities significantly enhance fluency among students.

Therefore, the study concludes that educational games significantly contribute to improved reading outcomes and heightened student engagement. By providing a fun, interactive, and rewarding environment, these games motivate students to practice reading and develop essential literacy skills. Game-based teaching methods lead to considerable gains in reading abilities, coupled with a reduction in performance variability. This stresses the potential for well-designed and thoughtfully implemented educational games to transform reading from a task into an interactive experience, fostering a more engaged and motivated student body.

Based on the results, the recommendations stemming from a study on the effectiveness of educational games in teaching reading comprehension and student engagement:

Schools may actively integrate game-based learning into the curriculum, particularly in the early grades, to capitalize on its effectiveness in enhancing reading fluency and comprehension. Provide educators with the necessary materials, training, and support to plan and apply effective game-based activities. Encourage the building of a learning environment that encourages active student participation and collaborative learning through game-based strategies.

Learners may embrace game-based instruction as an engaging and effective tool to improve reading skills. Actively participate in game-based activities, taking advantage of the interactive features, rewards, and challenges. Explore different types of reading games and identify those that best suit individual learning styles and preferences.

Teachers may incorporate game-based teaching approaches to create energetic and fun learning environments. Utilize games to provide repetitive practice in a meaningful and less intimidating way, focusing on phonemic awareness, sight word acquisition, and vocabulary development. Integrate elements of play and competition to foster collaboration, problem-solving skills, and motivation among students.

Stakeholders, including parents and educational organizations, may advocate for the employment of game-based learning techniques in schools. Support research and development efforts focused on creating high-quality educational games and resources. Promote initiatives that provide access to technology and training for teachers and students to effectively implement game-based learning strategies.

The community may support school initiatives that promote literacy through innovative methods like educational games. They should also encourage community-based programs that offer access to educational games and resources for students and families. Local organizations and businesses can partner with schools to provide funding, technology, and mentorship for game-based learning initiatives.

Curriculum developers may integrate game-based learning objectives and activities into the reading curriculum. Ensure that game-based activities align with learning standards and focus on particular reading competencies, such as decoding, comprehension, and eloquence. Include guidelines for assessing the usefulness of game-based interventions and measuring student engagement and progress.

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