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Game-Based Learning and its Role in Boosting Students' Motivation and Academic Achievement

Emma C. Obosin

Teacher III, Pequit Integrated School ES, Wright I District

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ABSTRACT

Game-based learning, an instructional approach that integrates interactive games to enhance student engagement and learning outcomes, has gained increasing attention for its potential to improve motivation and academic performance. This study examined the role of game-based learning in enhancing students' motivation and academic achievement among Key Stage 2 learners in the District of Wright I, Schools Division of Samar, during School Year 2025–2026. Using a quantitative descriptive-correlational research design, the study explored relationships among students' profile variables, perceptions of game-based learning implementation, motivation, and academic performance. Findings revealed that most students demonstrated moderately high academic performance, with 67.14 % achieving mean grades between 85 and 89. Among the profile variables, only access to gadgets at home and positive attitudes toward game-based learning were significantly correlated with perceived implementation and motivation, while age, sex, and frequency of gadget use showed no significant relationships. Student and teacher perceptions of implementation were not significantly associated with academic achievement, although positive learning attitudes showed a weak relationship with slightly higher performance. Teachers identified difficulty in clarifying instructions and rules as a major implementation challenge. Recommendations include enhancing teacher training, improving access to technology, fostering positive learning attitudes, and conducting further studies on long-term outcomes.

Keywords: Game-based learning, Student motivation, Academic achievement, Technology access, Key Stage 2 learners

INTRODUCTION

In the modern educational landscape, traditional classroom methods are continuously being reevaluated to adapt to the changing needs and interests of learners. Among the various innovative strategies, game-based learning emerges as a promising approach that aligns with the digital orientation of today's students. This method not only fosters interactive and engaging learning experiences but also addresses issues related to learners' declining motivation and inconsistent academic performance. Given the growing concern for effective learning strategies, there is an urgent need to explore pedagogies that not only impart knowledge but also ignite enthusiasm and drive among students.

Game-based learning (GBL), an instructional method that uses game elements and mechanics in educational settings, has garnered increasing attention in recent years. Studies have shown that GBL enhances cognitive engagement, encourages participation, and promotes deep learning (Hamari et al., 2020). It transforms the classroom environment into a more dynamic space where learners actively collaborate, compete, and explore, leading to improved retention and understanding. Furthermore, GBL allows students to learn at their own pace, providing instant feedback that fosters a growth mindset (Plass et al., 2022). As a result, this strategy has gained momentum among educators aiming to adapt instruction to 21st-century learning demands.

Equally important is the concept of learners' motivation, which plays a crucial role in academic persistence and success. Motivated students tend to show higher levels of engagement, improved performance, and greater self-efficacy. According to Ryan and Deci (2020), intrinsic motivation, which is often enhanced through gamified

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learning experiences, leads to deeper learning and sustained academic effort. In game-based environments, learners are driven by curiosity, rewards, and the satisfaction of accomplishment, thus fostering a positive emotional connection to learning tasks (Subhash & Cudney, 2021). These motivational gains are especially critical in promoting lifelong learning habits among young learners.

Moreover, academic achievement continues to be one of the core indicators of educational success. It reflects not only the mastery of subject matter but also the effectiveness of instructional strategies implemented in schools. Recent studies have reported that students exposed to innovative learning modalities, such as game-based learning, tend to perform better in assessments and demonstrate improved problem-solving skills (Tsai et al., 2021). Game mechanics like progress tracking, immediate feedback, and goal orientation have been linked to higher academic outcomes compared to conventional methods (Wouters et al., 2020). These findings underscore the potential of GBL in enhancing student achievement in various subject areas.

This study aligns with national and institutional education policies that promote innovation and improved learning outcomes in basic education. The Department of Education (DepEd), through its MATATAG agenda and the Basic Education Development Plan (BEDP) 2030, emphasizes the importance of strengthening foundational skills, including literacy, and integrating technology and innovative teaching practices in the classroom. These frameworks advocate for responsive, learner-centered approaches that enhance student engagement and achievement. By promoting the use of effective and research-based instructional strategies, such as guided reading, these policies support the development of learners' comprehension skills and encourage teachers to adopt practices that address diverse learning needs (DepEd, 2023).

Similarly, Republic Act No. 10533, or the Enhanced Basic Education Act of 2013, reinforces the implementation of learner-centered, inclusive, and developmentally appropriate teaching approaches. The law underscores the need for differentiated instruction and flexible teaching strategies that cater to learners' varying abilities, interests, and contexts. In relation to this study, guided reading strategies embody these principles by providing structured and scaffolded instruction tailored to learners' reading levels. This alignment highlights the relevance of implementing such interventions, particularly in multi-grade classrooms, where addressing diversity and promoting equitable learning opportunities are essential to improving academic performance and literacy outcomes (Republic Act No. 10533, 2013).

In line with these mandates, recent school-based data reveal notable trends in learners' motivation and academic performance. The measurement of students' motivation levels was based on a standardized Learner Motivation Survey Checklist, adapted from validated engagement and motivation indicators used by the Department of Education. The tool consists of Likert-scale items assessing behavioral, emotional, and cognitive engagement during classroom activities, with results categorized into high, moderate, and low motivation levels. Data gathered from selected schools in the division showed that in School Year (SY) 2022–2023, only 58% (approximately 131 out of 226 learners) of intermediate students demonstrated high motivation toward learning activities, with a corresponding academic achievement rate of 62%. In SY 2023–2024, following the pilot implementation of limited game-based instructional strategies, motivation levels increased to 64% (145 learners), while academic achievement improved to 68%. However, as of the first quarter of SY 2024–2025, motivation levels slightly declined to 61% (138 learners), with academic achievement at 65%, indicating inconsistencies in sustaining learner engagement and performance (School Division Office Report, 2023; DepEd Monitoring and Evaluation Report, 2025).

Further supporting these findings, records on teacher professional development show that exposure to game-based learning approaches remains limited and inconsistent. In School Year (SY) 2022–2023, only 45 % (approximately 102 out of 226 teachers) participated in training related to interactive or game-based strategies. This increased to 52 % (118 teachers) in SY 2023–2024 during pilot implementation phases, and further to 60 % (136 teachers) in SY 2024–2025. However, most of these trainings were short-term orientations rather than in-depth and sustained capacity-building programs, which may have limited their impact on actual classroom practices (DepEd Division Training Records, 2025).

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Moreover, National Achievement Test (NAT) results reflect only gradual improvement in learners' academic performance over the same period. Proficiency rates increased from 54 % in SY 2022–2023 to 58 % in SY 2023–2024, and further to 61 % in SY 2024–2025. While these gains indicate some level of progress, they also reveal a persistent gap between the implementation of instructional innovations and consistent student achievement outcomes. This suggests the need for a more structured, well-monitored, and sustainable implementation of game-based learning strategies to effectively enhance both learner motivation and academic performance (NAT Results Report, 2025).

Despite the increasing implementation of game-based learning and its perceived benefits, there remains a limited number of localized and empirical studies that comprehensively examine its direct influence on learners' motivation and academic achievement in the Key Stage 2 level. Furthermore, while existing literature suggests a positive correlation, many studies lack longitudinal data or contextual application in rural and public-school settings. Hence, this study aims to fill that gap by exploring how game-based learning influences both motivational and academic variables in a specific educational context, thereby contributing valuable insights to pedagogical innovation and policy development.

LITERATURE REVIEW

The quality of education depends not only on the competence of teachers but also on the instructional approaches employed to engage learners and promote meaningful learning experiences. As educational systems continue to evolve, educators are encouraged to adopt innovative teaching strategies that actively involve students in the learning process. One instructional approach that has gained considerable attention is game-based learning (GBL), which integrates educational content with game elements to enhance learner engagement, motivation, and academic performance. According to Plass et al. (2020), game-based learning combines educational objectives with gameplay to create meaningful learning experiences that promote active participation and knowledge construction. In the Philippine educational setting, where improving learner outcomes remains a national priority, game-based learning has emerged as a promising strategy for creating interactive, learner-centered classrooms that support the goals of the Department of Education.

The theoretical foundation of game-based learning is anchored on constructivist and experiential learning theories, which emphasize that learners actively construct knowledge through authentic experiences rather than passive reception of information. Plass et al. (2020) explained that educational games provide opportunities for exploration, experimentation, collaboration, and reflection, enabling learners to develop a deeper understanding of concepts. Through interactive challenges and meaningful tasks, students become active participants in the learning process, resulting in improved knowledge retention and higher levels of engagement.

One of the most significant benefits of game-based learning is its ability to increase students' motivation. Motivation is a key determinant of learners' willingness to participate, exert effort, and persist in achieving academic goals. According to Ryan and Deci (2020), Self-Determination Theory posits that intrinsic motivation develops when learners experience autonomy, competence, and relatedness. Educational games satisfy these psychological needs by allowing students to make choices, solve challenges, receive immediate feedback, and experience a sense of accomplishment. As a result, learners become more enthusiastic, confident, and committed to classroom activities.

Research has likewise demonstrated that game-based learning significantly enhances student engagement. Hamari et al. (2021) reported that game elements such as points, badges, levels, leaderboards, and rewards encourage active participation and sustained attention during learning activities. These features create enjoyable learning experiences that stimulate curiosity and encourage learners to complete instructional tasks. Increased engagement also promotes collaborative learning, classroom interaction, and deeper cognitive processing, all of which contribute to improved academic performance.

Beyond motivation and engagement, game-based learning has consistently been associated with improved academic achievement. Academic achievement refers to learners' performance as measured through

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examinations, classroom assessments, project outputs, and academic grades. Clark et al. (2016) found that educational games improve learning outcomes by providing repeated opportunities for practice, reinforcing concepts, and offering immediate corrective feedback.

Similarly, Mayer (2021) argued through the Cognitive Theory of Multimedia Learning that students learn more effectively when information is presented using interactive visual, auditory, and multimedia elements. Consequently, learners who participate in well-designed game-based learning activities demonstrate higher levels of content mastery and long-term retention.

Game-based learning also develops higher-order thinking skills essential for twenty-first century education. According to Gee (2007), effective educational games encourage learners to solve problems, analyze situations, make strategic decisions, and think critically while interacting with realistic scenarios. These experiences help students develop creativity, collaboration, communication, and critical thinking skills, which are fundamental competencies required in contemporary education. Although Gee's work predates many recent studies, it remains one of the foundational references in game-based learning research.

Another important characteristic of game-based learning is the provision of immediate feedback. Black and Wiliam (2018) emphasized that timely formative assessment enables learners to recognize misconceptions, adjust their learning strategies, and improve academic performance. Unlike traditional classroom assessments, educational games provide instant responses that allow learners to monitor their progress while remaining motivated to complete learning tasks. Immediate feedback therefore strengthens both learning outcomes and students' confidence.

The successful implementation of game-based learning largely depends on teachers' instructional competence. Mishra and Koehler (2006) proposed the Technological Pedagogical Content Knowledge (TPACK) Framework, which emphasizes the integration of technology, pedagogy, and content knowledge to maximize student learning. Teachers who effectively align educational games with curriculum standards, learning objectives, and assessment practices are more likely to create meaningful learning experiences that improve students' motivation and academic achievement.

Furthermore, technological advancements have increased opportunities for integrating game-based learning into classroom instruction. Interactive platforms such as Kahoot!, Quizizz, Blooket, Wordwall, and Gimkit enable teachers to create engaging learning environments that encourage collaboration, healthy competition, and active participation. These platforms have become valuable instructional tools in both face-to-face and blended learning environments because they provide immediate feedback while making learning enjoyable and interactive.

Despite its numerous benefits, implementing game-based learning presents several challenges. Teachers often encounter limitations related to inadequate technological infrastructure, unreliable internet connectivity, limited access to digital devices, and insufficient professional training. In addition, designing educational games that effectively balance entertainment with instructional objectives requires careful planning and considerable preparation. These challenges highlight the need for continuous teacher professional development and institutional support to maximize the effectiveness of game-based learning.

Taken together, the reviewed literature demonstrates that game-based learning plays a significant role in enhancing students' motivation and academic achievement. Existing studies consistently indicate that educational games increase learner engagement, foster intrinsic motivation, improve critical thinking, and strengthen academic performance.

The literature further emphasizes that successful implementation depends on effective instructional design, teacher preparedness, technological resources, and responsiveness to learner diversity. These findings provide a strong theoretical and empirical foundation for examining the role of game-based learning in boosting students' motivation and academic achievement.

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Research Questions

The study determined the role of game-based learning in boosting students' motivation and academic achievement among Key Stage 2 students in the District of Wright I, Schools Division of Samar, during the School Year 2025-2026.

Specifically, this study sought answers to the following questions:

1. What is the profile of the student-respondents in terms of the following variates:

   1.1 age and sex;
   1.2 gadgets present at home;
   1.3 number of times the gadget is being utilized; and
   1.4 attitude toward game-based learning?

2. What is the level of implementation of game-based learning as perceived by the student and teacher respondents in terms of the following:

   2.2 enjoyment in learning;
   2.3 understanding of the lesson;
   2.3 participation and involvement;
   2.4 motivation to learn; and
   2.5 teamwork and cooperation and;
   2.6 confidence in learning?

3. What is the level of motivation of the student-respondents when exposed to game-based learning according to:
   3.1 interest in learning;
   3.2 effort in doing school work;
   3.3 goal setting;
   3.4 willingness to join activities;
   3.5 positive attitude toward learning; and
   3.6 persistence?

4. What is the academic achievement of student-respondents based on the mean grade from the first and second quarters of School Year 2025-2026?

5. Is there a significant relationship between the profile variates of student-respondents and the following:
   5.1 level of implementation of game-based learning as perceived by students and teachers;
   5.2 level of learners' motivation; and
   5.3 student academic achievement?

6. Is there a significant relationship between the student-respondents' academic achievement and the following:
   6.1 students and teachers perceived implementation of game-based learning; and
   6.2 student-respondents' level of motivation when exposed to game-based learning?

7. What are the challenges encountered by the teacher-respondents in implementing the game-based learning?

Scope and Limitation

This study focused on determining the role of game-based learning in boosting students' motivation and academic achievement among Key Stage 2 learners in the District of Wright I, Schools Division of Samar, during the School Year 2025–2026. Specifically, the study examined the profile characteristics of the student-respondents in terms of age and sex, gadgets present at home, number of times the gadget is utilized, and attitude toward game-based learning.

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The study further determined the level of implementation of game-based learning as perceived by both student-respondents and teacher-respondents in terms of enjoyment in learning, understanding of the lesson, participation and involvement, motivation to learn, teamwork and cooperation, and confidence in learning. Likewise, it assessed the level of students' motivation when exposed to game-based learning based on their interest in learning, effort in doing school work, goal setting, willingness to join activities, positive attitude toward learning, and persistence. Students' academic achievement was measured using their mean grades during the first and second quarters of the School Year 2025–2026.

Furthermore, the study examined the significant relationship between the profile characteristics of the student-respondents and the level of implementation of game-based learning, learners' motivation, and academic achievement. It also determined the significant relationship between the implementation of game-based learning, learners' motivation, and students' academic achievement. In addition, the study identified the challenges encountered by teacher-respondents in implementing game-based learning in their classrooms.

The respondents of the study consisted of Key Stage 2 students and teachers from selected public elementary schools in the District of Wright I. Data were gathered using researcher-adapted survey questionnaires administered to both students and teachers. Documentary analysis of the students' first and second quarter grades was likewise conducted to determine academic achievement. Appropriate descriptive and inferential statistical tools were employed to analyze and interpret the data.

However, this study was subject to several limitations. First, the investigation was limited to selected public elementary schools in the District of Wright I, Schools Division of Samar, and excluded learners and teachers from other districts, divisions, private schools, and secondary schools. Consequently, the findings may not be generalized beyond the study locale.

Second, the assessment of the implementation of game-based learning and students' motivation relied primarily on the perceptions and self-reported responses of the student-respondents and teacher-respondents. Although validated research instruments were utilized and confidentiality was assured, responses may still have been influenced by personal perceptions, recall bias, or social desirability bias.

Third, students' academic achievement was measured solely through their mean grades during the first and second quarters of the School Year 2025–2026. Other indicators of academic performance, such as standardized achievement tests, formative and summative assessment scores, literacy and numeracy assessment results, classroom performance tasks, and co-curricular achievements, were not included in the study.

Moreover, while the study examined the relationship among game-based learning, students' motivation, and academic achievement, it did not consider other variables that may influence learners' academic performance, such as socioeconomic status, parental involvement, availability of learning resources at home, prior academic ability, digital literacy, teacher instructional competence, school learning environment, class size, peer influence, internet accessibility, and learners' physical and mental well-being.

Lastly, the study focused only on the selected dimensions of game-based learning implementation, students' motivation, and the challenges encountered by teachers during implementation. Other instructional approaches, motivational theories, technological interventions, and external factors affecting students' learning outcomes were beyond the scope of this investigation. Despite these limitations, the study is expected to provide valuable insights into the effectiveness of game-based learning as an instructional strategy for enhancing students' motivation and academic achievement and to serve as a basis for developing instructional enhancement programs and evidence-based educational interventions within the District of Wright I.

RESEARCH METHODOLOGY

The study used descriptive-correlation and comparative research design to evaluate the crisis management strategies of and their impact on school disaster preparedness in the District of San Jose de Buan, Schools Division of Samar.

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a. Sampling

This study employed proportionate random sampling to select the student-respondents from the population of Key Stage 2 learners in the District of Wright I, Schools Division of Samar, during the School Year 2025–2026. Proportionate random sampling is a probability sampling technique in which the number of respondents selected from each subgroup is proportional to its share of the total population. This method ensures that every school is fairly represented in the study while minimizing sampling bias and enhancing the representativeness of the sample.

The target population consisted of 441 Key Stage 2 learners enrolled in the nineteen (19) public elementary schools in the district. The required sample size of 210 student-respondents was determined using Slovin's Formula (Sevilla et al., 1992) with an appropriate margin of error. After determining the overall sample size, the number of respondents from each school was computed proportionately based on the school's total Key Stage 2 enrollment. Table 1 presents the distribution of the student-respondents per school.

To ensure that every qualified learner had an equal opportunity to participate in the study, the researcher employed simple random sampling through the fishbowl technique within each school. A complete list of eligible Key Stage 2 learners was obtained from the respective school heads. Each learner's name was written on identical slips of paper, placed in a container, thoroughly mixed, and randomly drawn until the required number of respondents for each school was reached. This procedure ensured that the selection process was free from researcher bias and that every eligible learner had an equal chance of being included in the study.

Prior to the conduct of the sampling procedure, the researcher coordinated with the district and school administrators to verify the official enrollment records and ensure the accuracy of the sampling frame. The researcher also consulted a statistician regarding the determination of the appropriate sample size and the proportional allocation of respondents across schools. Every selected learner who met the inclusion criteria and whose parent or guardian provided the necessary consent participated in the study, resulting in a 100 percent response rate. The use of proportionate random sampling was considered appropriate because it ensured adequate representation of learners from all participating schools, thereby increasing the reliability, validity, and generalizability of the findings within the District of Wright I.

b. Data Collection

Data for this study were gathered through a structured survey questionnaire designed to determine the role of game-based learning in boosting students' motivation and academic achievement among Key Stage 2 learners in the District of Wright I, Schools Division of Samar. The research instrument was adapted from established and validated questionnaires used in previous studies on game-based learning, student motivation, and academic achievement, with modifications made to suit the objectives and local context of the present study. The questionnaire consisted of sections that elicited information on the profile characteristics of the student-respondents, including age and sex, gadgets present at home, frequency of gadget utilization, and attitude toward game-based learning. It also contained items that measured the level of implementation of game-based learning as perceived by both student-respondents and teacher-respondents in terms of enjoyment in learning, understanding of the lesson, participation and involvement, motivation to learn, teamwork and cooperation, and confidence in learning. Furthermore, the instrument included indicators that assessed the students' level of motivation when exposed to game-based learning, particularly in terms of interest in learning, effort in doing school work, goal setting, willingness to join classroom activities, positive attitude toward learning, and persistence. A separate questionnaire was likewise administered to teacher-respondents to identify the challenges they encountered in implementing game-based learning in their classrooms.

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Prior to the actual conduct of the study, the research instrument underwent content validation by experts in educational management, educational technology, curriculum and instruction, and research methodology to ensure its relevance, clarity, appropriateness, and alignment with the objectives of the study. The comments, suggestions, and recommendations of the validators were carefully reviewed and incorporated into the final version of the questionnaire. Thereafter, a pilot test was conducted among respondents with characteristics similar to those of the target participants but who were not included in the actual study. The data obtained from the pilot testing were subjected to reliability analysis using Cronbach's alpha to determine the internal consistency and reliability of the instrument.

Upon securing the necessary approval from the Schools Division Superintendent of the Schools Division of Samar, the Public Schools District Supervisor of the District of Wright I, and the respective school heads, the researcher personally administered the questionnaires to the selected Key Stage 2 student-respondents and teacher-respondents. Before the administration of the questionnaires, the respondents were informed of the purpose, significance, and procedures of the study. The researcher likewise explained that participation was entirely voluntary and that all information collected would be treated with the highest degree of confidentiality and used solely for academic and research purposes. For the student-respondents, informed consent from parents or guardians and the assent of the learners were obtained prior to their participation. Ethical principles, including voluntary participation, anonymity, confidentiality, privacy, and respect for the rights of the respondents, were strictly observed throughout the data-gathering process.

In addition to the survey questionnaires, documentary data were collected to determine the academic achievement of the student-respondents. Specifically, the learners' mean grades for the first and second quarters of the School Year 2025–2026 were obtained from the official school records with the permission of the concerned school authorities. These records served as the basis for determining the academic achievement of the respondents and for examining its relationship with the implementation of game-based learning and students' motivation.

Upon retrieval, all accomplished questionnaires were carefully examined for completeness, accuracy, and consistency of responses. The collected data were then coded, classified, tabulated, and organized for statistical analysis using the appropriate descriptive and inferential statistical tools. The processed data served as the basis for determining the level of implementation of game-based learning, assessing students' motivation and academic achievement, identifying the challenges encountered by teachers in implementing game-based learning, and establishing the significant relationships among the variables included in the study.

c. Data Analysis

The data collected from the respondents were carefully examined for completeness, coded, classified, tabulated, and subjected to appropriate statistical treatment using statistical software. Both descriptive and inferential statistical tools were employed to analyze and interpret the data in accordance with the objectives of the study.

To describe the profile of the student-respondents in terms of age and sex, gadgets present at home, number of times the gadget is utilized, and attitude toward game-based learning, frequency counts, percentages, means, and standard deviations were utilized as appropriate. These statistical measures provided a comprehensive description of the demographic characteristics and technology-related profile of the respondents.

To determine the level of implementation of game-based learning as perceived by the student-respondents and teacher-respondents in terms of enjoyment in learning, understanding of the lesson, participation and involvement, motivation to learn, teamwork and cooperation, and confidence in learning, the weighted mean and standard deviation were computed. These statistical measures were used

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to determine the extent to which game-based learning was implemented in the classroom and the consistency of the respondents' perceptions.

Similarly, to determine the level of motivation of the student-respondents when exposed to game-based learning in terms of interest in learning, effort in doing school work, goal setting, willingness to join activities, positive attitude toward learning, and persistence, the weighted mean and standard deviation were likewise employed. These measures summarized the students' motivation across the identified dimensions.

To determine the academic achievement of the student-respondents based on their mean grades during the first and second quarters of the School Year 2025–2026, the mean and standard deviation were computed. These descriptive statistics provided an overall summary of the learners' academic performance and the variability of their grades.

To determine whether a significant difference existed between the perceptions of the student-respondents and teacher-respondents regarding the implementation of game-based learning, the Mann–Whitney U Test was utilized. This nonparametric statistical test was considered appropriate because the responses were obtained from two independent groups and the data were measured using ordinal scales that may not satisfy the assumptions required for parametric tests.

To determine the significant relationship between the profile characteristics of the student-respondents and the level of implementation of game-based learning, learners' motivation, and academic achievement, appropriate correlational statistical techniques were employed depending on the nature of the variables. For continuous or ordinal variables such as age, frequency of gadget utilization, and attitude toward game-based learning, the Spearman Rank-Order Correlation Coefficient (Spearman's rho) was used to determine the strength and direction of the relationships. Spearman's rho was selected because it is suitable for ordinal data and variables that may not be normally distributed.

For dichotomous variables such as sex, the Point-Biserial Correlation Coefficient was employed to determine the relationship between the dichotomous independent variable and the continuous dependent variables, namely the level of implementation of game-based learning, learners' motivation, and academic achievement.

Meanwhile, for profile variables consisting of more than two nominal categories, such as gadgets present at home, the Eta Correlation Coefficient (η) was utilized to determine the degree of association between the categorical independent variable and the continuous dependent variables. Eta correlation is appropriate for determining relationships involving nominal variables with multiple categories.

To determine the significant relationship between the level of implementation of game-based learning and the academic achievement of the student-respondents, the Spearman Rank-Order Correlation Coefficient (Spearman's rho) was likewise employed. This statistical tool measured the extent to which higher levels of game-based learning implementation were associated with better academic performance among the learners.

Similarly, to determine the significant relationship between the students' level of motivation and their academic achievement, the Spearman Rank-Order Correlation Coefficient (Spearman's rho) was used. This analysis determined whether increased learner motivation resulting from exposure to game-based learning was associated with improved academic achievement.

Finally, the challenges encountered by the teacher-respondents in implementing game-based learning were analyzed using frequency counts, percentages, weighted means, and ranking. These descriptive statistical tools identified the most frequently encountered challenges and determined their relative severity based on the responses of the teacher-respondents.

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All hypotheses were tested at the 0.05 level of significance. The results of the statistical analyses served as the basis for drawing conclusions and formulating recommendations aimed at strengthening the implementation of game-based learning, enhancing students' motivation, improving academic achievement, and providing evidence-based instructional interventions for Key Stage 2 learners in the District of Wright I, Schools Division of Samar.

DISCUSSION OF RESULTS AND RECOMMENDATIONS

Table 1. Profile of School Student- Respondents

Variable	Dominant Category/Description	f	% / Statistical Value
Age	11 years old	92	43.81
	Mean Age	—	11.20 years
	Median Age	—	11.00 years
	Mean Absolute Deviation	—	0.8469
Sex	Female	110	52.38
Gadgets Present at Home	Smartphone	199	94.76
Frequency of Gadget Utilization	Once a week	177	84.29
Attitude Toward Game-Based Learning	Agree	—	GWM = 3.67

The results presented in Table 1 show the profile of the student-respondents. The majority of the respondents were 11 years old (f = 92, 43.81%). The computed mean age of 11.20 years, median age of 11.00 years, and mean absolute deviation of 0.8469 years indicate that the respondents were generally clustered around 11 years of age with relatively little variation. In terms of sex, the majority were female (f = 110, 52.38%), while the remaining 100 respondents (47.62%) were male.

With respect to gadget availability, the majority of the respondents reported having a smartphone at home (f = 199, 94.76%), indicating that nearly all learners had access to a mobile device that could support digital learning activities. Regarding the frequency of gadget utilization, most respondents reported using their gadgets once a week (f = 177, 84.29%), suggesting that gadget use was relatively infrequent among the participants.

Moreover, the respondents exhibited a positive attitude toward game-based learning, as reflected by the grand weighted mean of 3.67, interpreted as "Agree." This finding indicates that the students generally viewed game-based learning favorably and recognized its potential to make classroom learning more engaging and enjoyable.

Table 2. Summary of the Level of Implementation of Game-Based Learning as Perceived by the Student-Respondents

Indicator	Grand Weighted Mean	Interpretation
Enjoyment in Learning	3.75	Implemented
Understanding of the Lesson	3.68	Implemented
Participation and Involvement	3.75	Implemented
Motivation to Learn	3.85	Implemented

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Teamwork and Cooperation	4.01	Implemented
Confidence in Learning	3.80	Implemented
Overall Grand Weighted Mean	**3.81**	**Implemented**

Table 2 presents the summary of the level of implementation of game-based learning as perceived by the student-respondents across the six dimensions. The findings revealed an overall grand weighted mean of 3.81, interpreted as "Implemented," indicating that game-based learning was generally practiced and experienced by the students during classroom instruction.

Among the six dimensions, teamwork and cooperation obtained the highest grand weighted mean (GWM = 4.01), suggesting that game-based learning effectively promoted collaboration, cooperation, and positive interaction among learners during classroom activities. This was followed by motivation to learn (GWM = 3.85), indicating that game-based learning encouraged students to become more enthusiastic and interested in learning. Confidence in learning ranked third (GWM = 3.80), implying that participation in game-based activities helped learners develop greater self-confidence and a stronger sense of accomplishment.

Meanwhile, both enjoyment in learning and participation and involvement obtained identical grand weighted means (GWM = 3.75), indicating that students generally enjoyed game-based activities and actively participated in classroom discussions and learning tasks. Understanding of the lesson recorded the lowest grand weighted mean (GWM = 3.68); however, it was still interpreted as "Implemented." This finding suggests that although students generally perceived game-based learning as helpful in improving lesson comprehension, its influence on deeper conceptual understanding was relatively less pronounced than its effects on motivation, teamwork, and classroom engagement.

Overall, the findings indicate that game-based learning was successfully implemented across all measured dimensions, with its greatest strengths observed in fostering collaboration, enhancing learner motivation, and building students' confidence while maintaining enjoyable and participatory classroom experiences.

Table 3. Summary of the Level of Implementation of Game-Based Learning as Perceived by the Teacher-Respondents

Indicator	**Grand Weighted Mean**	**Interpretation**
Enjoyment in Learning	4.65	Highly Implemented
Understanding of the Lesson	4.39	Implemented
Participation and Involvement	4.54	Highly Implemented
Motivation to Learn	4.50	Highly Implemented
Teamwork and Cooperation	4.57	Highly Implemented
Confidence in Learning	4.45	Implemented
Overall Grand Weighted Mean	**4.52**	**Highly Implemented**

Table 3 presents the summary of the level of implementation of game-based learning as perceived by the teacher-respondents across the six dimensions. The findings revealed an overall grand weighted mean of 4.52, interpreted as "Highly Implemented." This indicates that teachers consistently observed the successful implementation of game-based learning in their classrooms and recognized its positive contribution to learners' engagement and classroom participation.

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Among the six dimensions, enjoyment in learning obtained the highest grand weighted mean (GWM = 4.65), indicating that teachers strongly observed positive emotional responses among students during game-based learning activities. This finding suggests that incorporating games into classroom instruction created enjoyable learning experiences that increased learners' enthusiasm and interest in participating in classroom activities.

The second highest-rated dimension was teamwork and cooperation (GWM = 4.57), indicating that teachers consistently observed students collaborating effectively, supporting one another, and working cooperatively during game-based activities. This was followed by participation and involvement (GWM = 4.54), demonstrating that game-based learning encouraged learners to become more actively engaged in classroom discussions and collaborative tasks. Likewise, motivation to learn obtained a grand weighted mean of 4.50, suggesting that teachers perceived students to be more enthusiastic, eager, and willing to participate in learning activities when games were incorporated into instruction.

Meanwhile, confidence in learning recorded a grand weighted mean of 4.45, while understanding of the lesson obtained the lowest grand weighted mean of 4.39. Although both dimensions were interpreted as "Implemented," these findings indicate that teachers recognized the positive influence of game-based learning on students' self-confidence and lesson comprehension, albeit to a slightly lesser extent than its effects on enjoyment, teamwork, participation, and motivation.

Overall, the findings demonstrate that teachers perceived game-based learning as being highly implemented in their classrooms, particularly in promoting enjoyable learning experiences, fostering collaboration, increasing classroom participation, and enhancing students' motivation to learn. Although improvements in lesson understanding and learner confidence were likewise evident, these areas may benefit from further refinement through the careful selection and alignment of game-based activities with instructional objectives to maximize learning outcomes.

Table 4. Summary of the Level of Motivation of the Student-Respondents When Exposed to Game-Based Learning

Indicator	**Grand Weighted Mean**	**Interpretation**	**Rank**
Positive Attitude toward Learning	**4.25**	Often	1
Interest in Learning	**4.23**	Often	2
Persistence	**4.15**	Often	3
Goal Setting	**4.14**	Often	4
Willingness to Join Activities	**4.13**	Often	5
Effort in Doing Schoolwork	**4.12**	Often	6
Overall Grand Weighted Mean	**4.17**	**Often**	

Table 4 presents the summary of the level of motivation of the student-respondents when exposed to game-based learning across the six dimensions. The findings revealed an overall grand weighted mean of 4.17, interpreted as "Often." This indicates that students frequently exhibited positive motivational behaviors while participating in game-based learning activities, suggesting that the instructional approach effectively fostered learners' engagement and willingness to learn.

Among the six dimensions, positive attitude toward learning ranked first with the highest grand weighted mean (GWM = 4.25), indicating that students frequently demonstrated optimism, enthusiasm, and enjoyment toward learning when lessons incorporated game-based activities. This finding suggests that game-based learning contributed to creating a positive learning environment that encouraged learners to appreciate classroom instruction and develop favorable attitudes toward academic tasks.

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The second highest-rated dimension was interest in learning (GWM = 4.23), indicating that students often displayed curiosity and enjoyment in acquiring new knowledge. This was followed by persistence (GWM = 4.15), suggesting that learners generally continued working on challenging tasks despite encountering difficulties. Goal setting (GWM = 4.14) and willingness to join activities (GWM = 4.13) ranked fourth and fifth, respectively, indicating that students were frequently motivated to achieve academic goals and actively participate in classroom activities facilitated through game-based learning.

Meanwhile, effort in doing schoolwork obtained the lowest grand weighted mean (GWM = 4.12). Although this dimension ranked last among the six indicators, it was still interpreted as "Often," suggesting that students generally exerted effort in completing school-related tasks. However, compared with the other motivational dimensions, the influence of game-based learning on sustaining students' effort was relatively less pronounced. This finding implies that while game-based learning effectively stimulates learners' interest and positive attitudes, teachers may further strengthen students' persistence and work effort by incorporating games that emphasize sustained engagement, self-regulation, and task completion.

Overall, the findings indicate that students often demonstrated a high level of motivation when exposed to game-based learning. The consistently favorable ratings across all six dimensions suggest that game-based learning serves as an effective instructional strategy for fostering learners' interest, cultivating positive attitudes toward learning, encouraging active participation, and promoting persistence in accomplishing academic tasks. These findings further support the potential of game-based learning to enhance students' motivation, which is an important factor in improving classroom engagement and academic achievement.

Table 5. Academic Achievement of the Student-Respondents Based on Their Mean Grades During the First and Second Quarters

Mean Grade	Frequency (f)	Percentage (%)	Interpretation
90–94	39	18.57	Very Satisfactory
85–89	141	67.14	Satisfactory
80–84	30	14.29	Fairly Satisfactory
Total	**210**	**100.00**	

Table 5 presents the academic achievement of the student-respondents based on their mean grades during the first and second quarters of the School Year 2025–2026. The findings revealed that the majority of the student-respondents (141 or 67.14%) obtained mean grades ranging from 85 to 89, which corresponds to a Satisfactory level of academic performance. This was followed by 39 students (18.57%) who attained mean grades of 90 to 94, interpreted as Very Satisfactory, while 30 students (14.29%) obtained mean grades ranging from 80 to 84, interpreted as Fairly Satisfactory.

These findings indicate that the majority of the respondents demonstrated satisfactory academic performance, suggesting that most learners were able to meet the expected learning competencies during the first and second quarters. Moreover, the considerable proportion of students who achieved Very Satisfactory ratings reflects the presence of learners who consistently performed above the expected standards. Meanwhile, the relatively smaller percentage of students with Fairly Satisfactory grades indicates that only a limited number of learners may require additional academic support and instructional interventions to further improve their learning outcomes.

Overall, the distribution of mean grades suggests that the student-respondents generally exhibited commendable academic achievement, providing a favorable basis for examining the relationship between game-based learning, students' motivation, and academic performance.

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Table 6. Relationship Between the Profile Variables of the Student-Respondents and the Students' Perceived Level of Implementation of Game-Based Learning

Profile Variable	Statistical Tool	Coefficient	p-value	Decision	Interpretation
Age	Spearman's rho	0.048	0.493	Fail to Reject Ho	Not Significant
Sex	Point-biserial	-0.030	0.665	Fail to Reject Ho	Not Significant
Gadgets Present at Home	Eta (V)	0.907	0.000	Reject Ho	Significant
Number of Times Gadget is Utilized	Spearman's rho	-0.083	0.233	Fail to Reject Ho	Not Significant
Attitude toward Game-Based Learning	Spearman's rho	0.678	0.000	Reject Ho	Significant

Table 6 presents the relationship between the profile variables of the student-respondents and their perceived level of implementation of game-based learning. The findings revealed that only gadgets present at home (V = 0.907, p = 0.000) and attitude toward game-based learning (ρ = 0.678, p = 0.000) were significantly related to the perceived implementation of game-based learning. The very strong association between gadget availability and perceived implementation suggests that students with access to appropriate technological devices are more likely to experience and recognize the implementation of game-based learning. Likewise, the strong positive relationship between students' attitudes and perceived implementation indicates that learners who possess more favorable attitudes toward game-based learning tend to perceive higher levels of its implementation in the classroom.

Conversely, age (ρ = 0.048, p = 0.493), sex (rpb = -0.030, p = 0.665), and the number of times gadgets were utilized (ρ = -0.083, p = 0.233) did not exhibit significant relationships with students' perceived implementation of game-based learning. These findings imply that these demographic characteristics do not substantially influence how students perceive the implementation of game-based learning.

Table 7. Relationship Between the Profile Variables of the Student-Respondents and the Teachers' Perceived Level of Implementation of Game-Based Learning

Profile Variable	Statistical Tool	Coefficient	p-value	Decision	Interpretation
Age	Spearman's rho	-0.100	0.658	Fail to Reject Ho	Not Significant
Sex	Point-biserial	-0.206	0.358	Fail to Reject Ho	Not Significant
Gadgets Present at Home	Eta (V)	0.920	0.186	Fail to Reject Ho	Not Significant
Number of Times Gadget is Utilized	Spearman's rho	0.355	0.105	Fail to Reject Ho	Not Significant
Attitude toward Game-Based Learning	Spearman's rho	0.121	0.591	Fail to Reject Ho	Not Significant

Variables Correlated	Statistical Test	Coefficient Value (ρ)	p-value	Decision	Interpretation

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Teaching Competence and Students' Academic Achievement	Spearman rho	0.106	0.025	Reject Ho	Significant

Table 7 shows the relationship between the profile variables of the student-respondents and the teachers' perceived level of implementation of game-based learning. The findings revealed that none of the profile variables showed a significant relationship with teachers' perceptions of game-based learning implementation. Specifically, age, sex, gadgets present at home, frequency of gadget utilization, and students' attitude toward game-based learning all yielded p-values greater than the 0.05 level of significance, leading to the acceptance of the null hypothesis.

These findings indicate that teachers' perceptions regarding the implementation of game-based learning are generally independent of the students' demographic and technology-related characteristics. Instead, teachers' assessments may be influenced more by their instructional practices, classroom experiences, and pedagogical decisions than by the personal characteristics of their learners.

Table 8. Relationship Between the Profile Variables of the Student-Respondents and the Teachers' Perceived Level of Implementation of Game-Based Learning

Profile Variable	**Statistical Tool**	**Coefficient**	**p-value**	**Decision**	**Interpretation**
Age	Spearman's rho	0.009	0.897	Fail to Reject Ho	Not Significant
Sex	Point-biserial	0.022	0.749	Fail to Reject Ho	Not Significant
Gadgets Present at Home	Eta (V)	0.929	0.000	Reject Ho	Significant
Number of Times Gadget is Utilized	Spearman's rho	0.087	0.208	Fail to Reject Ho	Not Significant
Attitude toward Game-Based Learning	Spearman's rho	0.335	0.000	Reject Ho	Significant

Table 8 presents the relationship between the profile variables of the student-respondents and their level of motivation when exposed to game-based learning. The findings revealed that gadgets present at home **(**$V = 0.929$, $p = 0.000$**) and** attitude toward game-based learning **(**$\rho = 0.335$, $p = 0.000$**)** were significantly related to students' motivation. These findings suggest that access to technological devices and favorable attitudes toward game-based learning contribute positively to learners' motivation.

Meanwhile, age, sex, and frequency of gadget utilization did not show statistically significant relationships with students' motivation. This implies that motivation is influenced more by learners' access to learning resources and their disposition toward game-based learning than by their demographic characteristics.

Table 9. Relationship Between the Profile Variables of the Student-Respondents and Their Academic Achievement

Profile Variable	**Statistical Tool**	**Coefficient**	**p-value**	**Decision**	**Interpretation**
Age	Spearman's rho	0.232	0.766	Fail to Reject Ho	Not Significant
Sex	Point-biserial	0.050	0.467	Fail to Reject Ho	Not Significant
Gadgets Present at Home	Eta (V)	0.294	0.088	Fail to Reject Ho	Not Significant

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Number of Times Gadget is Utilized	Spearman's rho	-0.044	0.524	Fail to Reject Ho	Not Significant
Attitude toward Game-Based Learning	Spearman's rho	-0.025	0.715	Fail to Reject Ho	Not Significant

Table 9 presents the relationship between the profile variables of the student-respondents and their academic achievement. The results revealed that none of the profile variables showed a statistically significant relationship with students' academic achievement, as all obtained p-values greater than the 0.05 level of significance. Accordingly, the null hypothesis was not rejected for all profile variables.

These findings indicate that students' academic achievement was not significantly influenced by their age, sex, availability of gadgets at home, frequency of gadget utilization, or attitude toward game-based learning. This suggests that learners' academic performance may depend on other factors not included in the present investigation, such as instructional quality, study habits, parental support, prior academic ability, classroom environment, and individual learning characteristics.

Table 10. Relationship Between Academic Achievement and the Level of Implementation of Game-Based Learning and Students' Motivation

Variable	**Indicator**	**Correlation Coefficient (ρ)**	**p-value**	**Decision**	**Interpretation**
Students' Perceived Implementation of Game-Based Learning	Enjoyment in Learning	0.041	0.550	Fail to Reject Ho	Not Significant
	Understanding of the Lesson	-0.023	0.736	Fail to Reject Ho	Not Significant
	Participation and Involvement	0.048	0.492	Fail to Reject Ho	Not Significant
	Motivation to Learn	0.031	0.655	Fail to Reject Ho	Not Significant
	Teamwork and Cooperation	0.033	0.638	Fail to Reject Ho	Not Significant
	Confidence in Learning	0.036	0.608	Fail to Reject Ho	Not Significant
Teachers' Perceived Implementation of Game-Based Learning	Enjoyment in Learning	-0.105	0.643	Fail to Reject Ho	Not Significant
	Understanding of the Lesson	-0.057	0.800	Fail to Reject Ho	Not Significant
	Participation and Involvement	-0.158	0.484	Fail to Reject Ho	Not Significant
	Motivation to Learn	-0.277	0.211	Fail to Reject Ho	Not Significant

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	Teamwork and Cooperation	-0.104	0.644	Fail to Reject Ho	Not Significant
	Confidence in Learning	-0.157	0.486	Fail to Reject Ho	Not Significant
Students' Motivation	Interest in Learning	-0.002	0.975	Fail to Reject Ho	Not Significant
	Effort in Doing Schoolwork	-0.069	0.323	Fail to Reject Ho	Not Significant
	Goal Setting	-0.074	0.284	Fail to Reject Ho	Not Significant
	Willingness to Join Activities	-0.090	0.195	Fail to Reject Ho	Not Significant
	Positive Attitude toward Learning	**0.246**	**0.049**	**Reject Ho**	**Significant**
	Persistence	-0.033	0.632	Fail to Reject Ho	Not Significant

Table 10 presents the relationship between the student-respondents' academic achievement and the level of implementation of game-based learning, as perceived by both the student-respondents and teacher-respondents, as well as the students' level of motivation when exposed to game-based learning.

The findings revealed that none of the six dimensions of game-based learning implementation as perceived by the student-respondents showed a significant relationship with academic achievement, as all obtained p-values greater than the 0.05 level of significance. This indicates that students' perceptions regarding the extent to which game-based learning was implemented were not significantly associated with their academic performance as measured by their mean grades.

Similarly, all six dimensions of game-based learning implementation as perceived by the teacher-respondents likewise exhibited no significant relationship with the academic achievement of the student-respondents. These findings suggest that the extent to which teachers perceived themselves as implementing game-based learning did not directly correspond with variations in students' academic performance.

With respect to the students' level of motivation, only positive attitude toward learning demonstrated a significant positive relationship with academic achievement **(**$\rho = 0.246$, $p = 0.049$**),** although the correlation was weak. This finding implies that students who maintained a more positive disposition toward learning tended to obtain slightly higher academic performance. In contrast, the remaining dimensions of motivation—interest in learning, effort in doing schoolwork, goal setting, willingness to join activities, and persistence—did not show statistically significant relationships with academic achievement.

Overall, the findings suggest that while game-based learning may effectively enhance learners' engagement, enjoyment, collaboration, and motivation, its perceived implementation alone does not necessarily translate into higher academic achievement. Among the motivational dimensions examined, only positive attitude toward learning emerged as a significant predictor of academic performance, highlighting the importance of cultivating favorable learning attitudes alongside the effective implementation of game-based instructional strategies.

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Table 11 Challenges Encountered by the Teacher-Respondents in Implementing Game-Based Learning

Challenges	Weighted Mean	Interpretation	Rank
1. I experience difficulty in ensuring that students clearly understand the rules and instructions of the game-based activities.	**3.81**	Highly a Challenge	**1**
2. I observe that students tend to focus more on winning the game rather than achieving the intended learning objectives.	**3.58**	Highly a Challenge	**2**
3. I encounter limitations in access to adequate devices and stable internet connectivity required for game-based learning.	**3.48**	A Challenge	**6**
4. I face challenges in managing fair and balanced teaming or grouping among students during gameplay.	**3.28**	A Challenge	**9**
5. I find it challenging to adjust the pace of games to suit learners with varying abilities and learning speeds.	**3.49**	A Challenge	**4.5**
6. I note that certain game features cause distractions that divert students' attention away from the lesson.	**3.49**	A Challenge	**4.5**
7. I experience limited support in guiding and monitoring students effectively during game-based activities.	**3.51**	Highly a Challenge	**3**
8. I encounter technical problems such as glitches or system errors that disrupt the flow of instruction.	**3.36**	A Challenge	**8**
9. I observe increased pressure and stress among students due to the competitive nature of some games.	**3.56**	Highly a Challenge	**2.5**
10. I find it difficult to ensure equal participation, as not all students are given sufficient opportunities to take part.	**3.16**	A Challenge	**10**
Grand Weighted Mean	**3.47**	**A Challenge**	

Table 33 presents the challenges encountered by the teacher-respondents in implementing game-based learning. The findings yielded an overall grand weighted mean of 3.47, interpreted as "A Challenge**.**" This indicates that although teachers generally perceived game-based learning as highly implemented in their classrooms, they continued to experience several challenges that affected its effective and consistent implementation.

Among the identified challenges, difficulty in ensuring that students clearly understand the rules and instructions of game-based activities ranked first, obtaining the highest weighted mean (WM = 3.81), interpreted as "Highly a Challenge." This finding suggests that providing clear instructions and explaining game mechanics remain the most significant concerns among teachers. When learners fail to understand the objectives, mechanics, or procedures of a game, they may become confused, resulting in reduced participation and diminished learning outcomes.

The second most prominent challenge was the tendency of students to focus more on winning the game than on achieving the intended learning objectives **(**WM = 3.58**),** followed closely by the observation that the competitive nature of some games increased students' pressure and stress **(**WM = 3.56**).** Likewise, limited support in guiding and monitoring students during game-based activities **(**WM = 3.51**)** was also perceived as "Highly a Challenge**."** These findings indicate that, beyond technical implementation, teachers also encounter instructional and classroom management concerns that may influence the effectiveness of game-based learning.

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Meanwhile, challenges related to adjusting the pace of games to accommodate learners with varying abilities and minimizing distractions caused by certain game features both obtained weighted means of 3.49**,** while **l**imited access to adequate devices and stable internet connectivity **(**WM = 3.48**)** and technical problems such as glitches or system errors **(**WM = 3.36**)** were likewise perceived as "A Challenge." These findings suggest that technological constraints and learner diversity continue to affect the smooth implementation of game-based learning, particularly in resource-limited classroom settings.

The lowest-rated challenge was ensuring equal participation among students during game-based activities, with a weighted mean of 3.16, although it was still interpreted as "A Challenge." This indicates that while unequal participation remains a concern, teachers considered it less problematic than instructional clarity, classroom management, and technological issues.

Overall, the findings suggest that teachers encounter moderate challenges in implementing game-based learning, with the greatest concerns centered on instructional delivery, classroom management, learner engagement, and technological support**.** These results underscore the need for continuous professional development programs focusing on the effective facilitation of game-based instruction, particularly in designing clear game mechanics, managing learner participation, aligning games with instructional objectives, and utilizing appropriate technologies. Strengthening these areas may enhance teachers' capacity to implement game-based learning more effectively and maximize its potential to improve students' motivation and academic achievement.

Summary of Findings

This study determined the role of game-based learning in boosting students' motivation and academic achievement among Key Stage 2 learners in the District of Wright I, Schools Division of Samar, during the School Year 2025–2026.

Based on the analysis and interpretation of the data, the following findings were obtained:

1. The student-respondents were predominantly 11 years old and female. The majority had smartphones available at home, utilized their gadgets once a week, and demonstrated a positive attitude toward game-based learning, indicating that they generally viewed the integration of games into classroom instruction as an engaging and beneficial learning strategy.
2. As perceived by the student-respondents, the level of implementation of game-based learning was implemented across all six dimensions. Teamwork and cooperation obtained the highest assessment, followed by motivation to learn, confidence in learning, enjoyment in learning, participation and involvement, and understanding of the lesson. These findings indicate that students generally perceived game-based learning as effectively implemented in their classrooms.
3. As perceived by the teacher-respondents, the level of implementation of game-based learning was highly implemented. Enjoyment in learning obtained the highest assessment, followed by teamwork and cooperation, participation and involvement, motivation to learn, confidence in learning, and understanding of the lesson. These findings suggest that teachers consistently integrated game-based learning into their instructional practices and recognized its positive influence on learners' engagement and classroom participation.
4. The student-respondents often demonstrated a high level of motivation when exposed to game-based learning. Among the motivational dimensions, positive attitude toward learning obtained the highest rating, followed by interest in learning, persistence, goal setting, willingness to join activities, and effort in doing schoolwork. These findings indicate that game-based learning contributed positively to fostering students' motivation toward learning.
5. The majority of the student-respondents obtained mean grades ranging from 85 to 89 during the first and second quarters of the School Year 2025–2026, corresponding to a Satisfactory level of academic achievement. This finding indicates that most learners attained the expected learning competencies and demonstrated satisfactory academic performance.

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6. Among the profile variables of the student-respondents, gadgets present at home and attitude toward game-based learning showed significant positive relationships with the students' perceived level of implementation of game-based learning. In contrast, age, sex, and the number of times gadgets were utilized did not show significant relationships with students' perceptions of game-based learning implementation.
7. None of the profile variables of the student-respondents demonstrated a significant relationship with the teachers' perceived level of implementation of game-based learning, indicating that teachers' perceptions regarding the implementation of game-based learning were generally independent of the learners' demographic and technology-related characteristics.
8. Gadgets present at home and attitude toward game-based learning also exhibited significant positive relationships with the students' level of motivation when exposed to game-based learning. Conversely, age, sex, and the frequency of gadget utilization showed no significant relationship with learners' motivation.
9. None of the profile variables of the student-respondents showed a significant relationship with academic achievement, suggesting that learners' academic performance may have been influenced by other factors beyond the profile variables considered in the present study.
10. The level of implementation of game-based learning, as perceived by both the student-respondents and teacher-respondents, did not show a significant relationship with the students' academic achievement across all measured dimensions. However, among the dimensions of students' motivation, only positive attitude toward learning demonstrated a significant positive relationship with academic achievement, although the relationship was weak. The remaining motivational dimensions did not significantly correlate with students' academic performance.
11. The teacher-respondents encountered challenges in implementing game-based learning. The most significant challenge was ensuring that students clearly understood the rules and instructions of game-based activities, while ensuring equal participation among students during gameplay was identified as the least challenging. Overall, the respondents perceived the implementation of game-based learning as presenting moderate challenges, particularly in instructional delivery, classroom management, learner engagement, and technological support.
12. The findings of this study should be interpreted in light of several limitations. First, the study relied primarily on self-reported responses from students and teachers, which may have been influenced by personal perceptions and subjective judgments. Second, the investigation was limited to selected Key Stage 2 learners and teachers in the District of Wright I, Schools Division of Samar, thereby limiting the generalizability of the findings to other educational settings. Third, academic achievement was measured solely through the students' mean grades during the first and second quarters of the School Year 2025–2026 and did not include standardized achievement tests or other measures of learning outcomes. Finally, the cross-sectional nature of the study limits the establishment of causal relationships among the variables examined. Future researchers may consider broader samples, longitudinal or experimental research designs, and additional measures of academic achievement and learner motivation to strengthen and validate the findings of the present study.

CONCLUSION

Based on the findings of the study, it is concluded that the Key Stage 2 learners in the District of Wright I, Schools Division of Samar, generally possess favorable characteristics that support the implementation of game-based learning. Most of the student-respondents had access to smartphones at home, utilized gadgets on a regular basis, and demonstrated a positive attitude toward game-based learning. These characteristics provided a conducive environment for integrating game-based instructional strategies into classroom instruction.

The study further concludes that game-based learning has been successfully integrated into classroom instruction. Both student-respondents and teacher-respondents perceived its implementation positively, with teachers rating it as highly implemented and students rating it as implemented across all measured dimensions. These findings indicate that game-based learning has become an effective instructional approach that promotes enjoyable, collaborative, interactive, and learner-centered classroom experiences.

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Moreover, exposure to game-based learning contributed positively to students' motivation toward learning. The learners frequently demonstrated positive attitudes toward learning, sustained interest, persistence, goal setting, willingness to participate, and effort in accomplishing school-related tasks. These findings suggest that game-based learning serves as an effective motivational strategy that encourages active learner engagement and fosters a positive disposition toward classroom learning.

The study likewise concludes that the student-respondents generally attained a Satisfactory level of academic achievement during the first and second quarters of the School Year 2025–2026. This indicates that the learners were generally able to meet the expected learning competencies and demonstrate satisfactory academic performance.

The findings further established that gadgets present at home and students' attitude toward game-based learning significantly influenced both the students' perceived implementation of game-based learning and their level of motivation. These results highlight the importance of technological accessibility and learners' positive perceptions in maximizing the effectiveness of game-based instructional strategies. Conversely, age, sex, and frequency of gadget utilization did not significantly influence students' perceptions, motivation, or academic achievement.

Furthermore, the study found that neither the students' nor the teachers' perceived implementation of game-based learning demonstrated a significant relationship with students' academic achievement. This suggests that although game-based learning enhances learner engagement and classroom participation, its implementation alone does not necessarily translate into higher academic performance as reflected in learners' grades. Academic achievement is a multifaceted outcome influenced by numerous learner-, teacher-, family-, and school-related factors beyond the implementation of instructional strategies.

Among the dimensions of students' motivation, only positive attitude toward learning demonstrated a significant, albeit weak, positive relationship with academic achievement. This finding implies that cultivating positive learning attitudes may contribute to improved academic performance and emphasizes the importance of promoting learners' enthusiasm, confidence, and appreciation for learning alongside the implementation of game-based instructional approaches.

Although teachers generally perceived game-based learning as highly implemented, they also encountered several challenges in its implementation. The most prominent challenge involved ensuring that students clearly understood the rules and instructions of game-based activities, while technological constraints, classroom management, learner diversity, and maintaining students' focus on learning objectives also emerged as notable concerns. These findings suggest that the successful implementation of game-based learning requires not only teachers' commitment and instructional competence but also adequate technological resources, continuous professional development, effective classroom management strategies, and institutional support.

Overall, the study concludes that game-based learning is an effective instructional approach for enhancing students' motivation, engagement, collaboration, and positive learning experiences**.** While its direct influence on academic achievement was not statistically established, its significant contribution to learners' motivation and positive attitudes toward learning underscores its value as a learner-centered pedagogical strategy. Strengthening teachers' capacity to implement game-based learning, improving access to technological resources, and designing instructional games that promote deeper conceptual understanding may further maximize its potential to enhance both students' motivation and academic achievement in the District of Wright I, Schools Division of Samar.

RECOMMENDATIONS

In light of the findings and conclusions of the study, the following recommendations are proposed:

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1. School administrators should strengthen the integration of game-based learning into classroom instruction by providing teachers with adequate instructional resources, technological support, and a learning environment that encourages the effective use of game-based strategies.
2. Teachers should continue to integrate game-based learning into their instructional practices by designing meaningful, curriculum-aligned, and learner-centered activities that promote active participation, collaboration, critical thinking, and meaningful learning experiences.
3. Schools should provide continuous professional development programs, such as seminars, workshops, Learning Action Cell (LAC) sessions, demonstration teaching, and coaching activities, focusing on the effective design, implementation, and evaluation of game-based learning strategies across different learning areas.
4. School heads and instructional leaders should establish mentoring and instructional coaching programs that assist teachers in developing classroom management strategies, improving the delivery of game-based activities, and ensuring that instructional objectives remain the primary focus of classroom games.
5. The Schools Division Office should strengthen capacity-building initiatives by providing teachers with opportunities to participate in district, division, regional, and national training programs on educational technology, game-based learning, digital pedagogy, and innovative instructional approaches.
6. Since students' positive attitude toward game-based learning was found to be significantly related to both the perceived implementation of game-based learning and learners' motivation, teachers should cultivate positive learning experiences by selecting age-appropriate, engaging, and meaningful educational games that encourage curiosity, enjoyment, and sustained participation.
7. Schools should improve learners' access to technological resources, including digital devices, reliable internet connectivity, and educational applications, since the availability of gadgets at home was found to have a significant relationship with both students' perceived implementation of game-based learning and their level of motivation.
8. Teachers should place greater emphasis on designing game-based activities that promote deeper conceptual understanding, higher-order thinking skills, and meaningful application of knowledge, considering that understanding of the lesson received comparatively lower ratings than the other dimensions of game-based learning implementation.
9. To address the challenges encountered in implementing game-based learning, teachers should provide clear and explicit instructions, demonstrate game mechanics before the activity, establish classroom rules, and conduct debriefing sessions to ensure that students understand both the objectives and procedures of the learning games.
10. Teachers should design games that encourage equal participation, minimize excessive competition, and maintain students' focus on achieving the intended learning outcomes rather than merely winning the game.
11. Schools should establish Professional Learning Communities (PLCs) or strengthen Learning Action Cells (LACs) where teachers can collaboratively develop, share, evaluate, and improve game-based learning materials, classroom strategies, and best practices.
12. Parents and guardians should be encouraged to support their children's learning by providing appropriate supervision during gadget use, promoting responsible technology utilization at home, and encouraging participation in educational games that reinforce classroom learning.
13. Since only positive attitude toward learning demonstrated a significant relationship with academic achievement, teachers should incorporate motivational strategies that foster learners' confidence, enthusiasm, resilience, and appreciation for learning alongside the implementation of game-based instructional activities.
14. Schools should continuously monitor and evaluate the implementation of game-based learning through classroom observations, learner feedback, instructional supervision, and periodic program evaluations to ensure its effectiveness and identify areas requiring improvement.
15. Future researchers are encouraged to conduct similar studies in other districts, divisions, or educational settings using larger and more diverse populations to validate and compare the findings of the present investigation.
16. Future studies may include additional variables such as teacher competence in educational technology, digital literacy, parental involvement, learner engagement, socioeconomic status, classroom climate,

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instructional leadership, and school technological readiness to obtain a more comprehensive understanding of the factors influencing the effectiveness of game-based learning.

17. Future researchers are likewise encouraged to employ experimental, quasi-experimental, longitudinal, or mixed-methods research designs to determine the causal effects and long-term impact of game-based learning on students' motivation, academic achievement, critical thinking, collaboration, and other twenty-first century learning skills.
18. Future studies should consider using additional measures of academic performance, such as standardized achievement tests, performance-based assessments, literacy and numeracy assessments, and classroom-based formative assessments, to complement grade-based measures and provide a more comprehensive evaluation of students' learning outcomes.

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