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Perceived effectiveness of interactive games in enhancing the reading skills of learners

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Abstract
This study evaluated the effectiveness of interactive games as an intervention tool to enhance the reading skills of Grade 2 learners at Sabangan Elementary School and Naguilian Norte Elementary School, in Lower Calanasan District, Calanasan, Apayao, Philippines. The study employed an experimental research design with pre-test and post-test methods among the experimental and control group. Also, a descriptive-evaluative method was adopted for expert assessment on the developed interactive games using the DepEd Evaluation Tool for Non-Print Instructional Materials. Findings revealed that after the use of the interactive games, there was a marked improvement in reading performance, particularly in the experimental group, where more learners reached satisfactory and very satisfactory levels. The gain scores of learners significantly increased, with the experimental group outperforming the control group. Statistical analysis confirmed the effectiveness of the games, especially at Naguilian Elementary School, where a significant difference in gain scores was recorded compared to Sabangan Elementary School. Furthermore, expert evaluated the games' high quality in content, instruction, and technical aspects. The positive feedback from both learners' performance data and expert assessments suggested that the games met educational standards and could be adopted as instructional tools in early literacy programs, especially in rural schools with limited access to engaging, technology-based learning resources.

Keywords: DepEd calanasan, apayao, experimental, interactive games, non-print instructional material, reading skills

Introduction

Reading serves as the cornerstone of education, facilitating the development of language, comprehension, and critical thinking skills. Literacy is recognized as a key predictor of academic achievement, economic participation, and lifelong learning. Early exposure to effective reading instruction significantly impacts a child's future learning trajectory. The integration of interactive learning strategies, particularly through game-based learning, has gained traction as an innovative approach to address reading difficulties among early-grade learners. Interactive games stimulate engagement, enhance retention, and provide real-time feedback, making the learning process enjoyable and effective (Gee, 2021) [6].

The use of technology-driven learning interventions has been widely adopted across different educational systems worldwide. Countries such as Finland, Singapore, and the United States have incorporated digital and interactive learning strategies into their literacy programs. Studies indicate that learners exposed to interactive learning environments demonstrate higher engagement levels, improved reading fluency, and better comprehension skills (Mayer, 2020) [9]. Research conducted by the International Literacy Association (ILA, 2022) [7]. emphasizes the role of game-based learning in enhancing vocabulary acquisition, decoding skills, and reading motivation among young learners. The integration of digital platforms and interactive tools has been proven to create student-centered, immersive experiences that promote reading proficiency.

In the Philippines, low reading proficiency among primary school learners remains a pressing concern. Findings from PISA 2018 and 2022 revealed that Filipino students scored significantly lower in reading compared to their counterparts in other Southeast Asian nations. The Department of Education (DepEd) has implemented programs such as the Comprehensive Rapid Literacy Assessment (CRLA) and Brigada Pagbasa to enhance reading competencies among early-grade learners. However, reports indicate that many students continue to struggle with reading fluency, comprehension, and word recognition.

Several local studies highlight the effectiveness of interactive and gamified learning strategies in improving students' reading skills. A study by Gatchalian *et al*. (2021) [4]. found that digital storytelling and phonics-based interactive games significantly improved reading comprehension among Grade 1 and Grade 2 learners in selected public schools in Metro Manila. In the research work of De la Cruz (2022) [2], the importance of visual and auditory reinforcement in interactive games was emphasized, particularly in strengthening reading retention and decoding skills. These findings align with the increasing call for more engaging, technology-integrated approaches in reading instruction, especially for struggling learners in the Philippines.

The Philippine government recognizes the need for innovative educational interventions to address the persistent literacy crisis. Republic Act No. 10533, also known as the Enhanced Basic Education Act of 2013, mandates the implementation of learner-centered and developmentally appropriate teaching strategies that foster reading proficiency among young learners. DepEd Order No. 14, s. 2023, which strengthens the National Reading Program (NRP), underscores the importance of gamified learning in enhancing engagement, motivation, and reading comprehension among primary school students. Furthermore, the Philippine Development Plan (PDP) 2023–2028 highlights the integration of technology-based learning resources to support foundational literacy and numeracy skills.

Teachers in Apayao have consistently expressed the need for innovative, culturally relevant, and interactive solutions

to improve reading outcomes and keep learners engaged. In Lower Calanasan District, Calanasan, Apayao, teachers have reported that a significant number of Grade 2 learners struggle with word recognition, decoding, and comprehension. Traditional methods such as rote reading and drills have not yielded the desired results, as many learners lose interest, experience reading anxiety, or exhibit minimal engagement during reading activities. The lack of interactive and contextualized learning materials further exacerbates the problem, making it difficult for young learners to develop essential reading skills.

As baseline data, the Literacy Engagement and Advancement Program (LEAP) Stage 2 – English Pre-Test conducted among 21 Grade 2 learners at a school in Lower Calanasan revealed that none of the learners reached Level 5 or 6, which represent more advanced reading skills such as sight words and silent letter words. The majority of learners were concentrated in Level 2 (VC) and Level 3 (CVC), with only a few reaching Level 4 variations. This result highlights that many learners remain in the early stages of phonemic blending, suggesting a pressing need for structured and engaging interventions to improve their foundational reading skills.

Persistent reading difficulties among primary school learners, coupled with the limitations of conventional teaching methods, underscore the need for innovative, engaging, and research-based interventions. The development of interactive games as a reading tool is rooted in the principles of game-based learning, cognitive engagement, and active participation. Research findings from both international and local studies highlight the potential of interactive learning tools in addressing reading deficiencies, making this study timely and relevant.

Recognizing the reading challenges faced by Grade 2 learners in Sabangan Elementary School and Naguilian Norte Elementary School, the researcher was motivated to develop contextualized, learner-friendly interactive games that would serve as an alternative strategy to improve reading skills.

Thus, the study provided valuable insights into the role of interactive games in fostering reading proficiency and motivation, paving the way for future innovations in literacy instruction, particularly in rural and underserved learning environments.

Statement of the Problem

This study evaluated the developed interactive games as intervention to enhance the reading skills of Grade 2 learners of Sabangan and Naguilian Elementary Schools in Lower Calanasan District, Calanasan, Apayao, during the school year 2024–2025.

Specifically, it sought answers to the following questions:

1. What are the pre-test scores of the Grade 2 learners before the use of the developed interactive games?
2. What are the post-test scores of the Grade 2 learners after the use of the developed interactive games?
3. What is the gain score of the Grade 2 learners in reading skills after the intervention?
4. Is there a difference on the gain score of the respondents when grouped according to school?
5. How do experts assess the developed interactive games in terms of the following criteria?

a. Content Quality
b. Instructional Quality
c. Technical Quality

Methods and Procedures

Research Design

This study employed true experimental research design with a pre-test and post-test approach to evaluate the effectiveness of developed interactive games in enhancing the reading skills of Grade 2 learners. The experimental design was appropriate for this study as it involved measuring the reading skills of learners before and after the implementation of the interactive games to the experimental group. A pre-test was conducted to determine the initial reading proficiency of the participants, followed by the integration of interactive games in reading instruction. After the intervention, a post-test was administered among the experimental group to assess improvements in reading skills. The comparison of pre-test and post-test scores among the control and experimental group allowed the study to determine whether the interactive games have a significant impact on reading proficiency.

Locale of the Study

This study was conducted at Sabangan Elementary School and Naguilian Norte Elementary School, located in Lower Calanasan District, Calanasan, Apayao, during the school year 2024–2025. The school is situated in a rural area where learners face various challenges in literacy development, including limited access to interactive learning resources and technology-driven instructional materials. The selection of Sabangan Elementary School and Naguilian Norte Elementary School as the research site was based on the identified reading challenges faced by learners and the opportunity to introduce an interactive, play-base d approach to reading instruction. Given the school's rural setting, the study determined whether the developed interactive games could serve as an effective alternative strategy for improving the reading skills of primary school learners in similar educational contexts.

Respondents and Sampling Procedure

The respondents of this study were the Grade 2 learners enrolled at Sabangan Elementary School (10 learners) and Naguilian Norte Elementary School (10 learners), at Calanasan, Apayao, for the school year 2024–2025. The experimental group participated in the implementation of the interactive games as a tool for enhancing reading skills. The selection of Grade 2 learners was based on the developmental stage where reading proficiency is crucial for future academic success, making them the appropriate group to assess the effectiveness of game-based reading interventions. In addition to the learners, a group of experts in education and instructional design evaluated the developed interactive games based on content quality, instructional quality, and technical quality. These experts provided feedback and validation to ensure that the games align with pedagogical standards and are suitable for classroom implementation.

Data Gathering Instruments

This study utilized multiple data gathering instruments to comprehensively evaluate the effectiveness of the developed interactive games in enhancing the reading skills of Grade 2 learners. The instruments included a pre-test and post-test, adapted from DepEd reading assessments, to measure learners' reading proficiency before and after the intervention. Additionally, an evaluation tool for non-print

instructional materials, prescribed by DepEd, was used to assess the quality of the developed interactive games in terms of content, instructional, and technical quality. The Pre-Test and Post-Test served as the primary instruments for determining the effectiveness of the interactive games in improving reading skills. The pre-test established the baseline reading skills, while the post-test evaluated improvements after exposure to the interactive games. To ensure the validity and quality of the developed interactive games, a DepEd Evaluation Tool for Non-Print Instructional Materials was used. This instrument evaluated the interactive games based on three major criteria: content quality, instructional quality, and technical quality.

Data Gathering Procedure

The data collection process followed a structured approach to ensure ethical compliance, accuracy, and the validity of results. Before the study's implementation, formal permissions were secured from the Schools Division Superintendent of Apayao through proper channels, including the School Principal of Sabangan and Naguilian Elementary Schools and other relevant authorities. Before administering the pre-test and post-test, the developed interactive games were evaluated by a panel of experts in education and instructional design including Master Teachers and School Heads using the DepEd Evaluation Tool for Non-Print Instructional Materials. After evaluation, a pre-test was conducted to assess the initial reading proficiency of Grade 2 learners. The test, adapted from DepEd reading assessment tools, measured word recognition, fluency, and comprehension skills to establish baseline performance. The evaluated interactive games were then integrated into reading instruction to the experimental group for a specified period. Learners engaged with the games under teacher supervision, ensuring structured and meaningful interaction. After completing the intervention, a post-test was conducted to measure improvements in reading proficiency. The post-test results were compared with the pre-test scores to evaluate the effectiveness of the interactive games.

Data Analysis

The study employed both descriptive and inferential statistical methods to analyze the collected data, ensuring a comprehensive evaluation of the effectiveness of interactive games in enhancing the reading skills of Grade 2 learners. The data were systematically processed to answer the research questions and test the hypotheses. The developed interactive games were evaluated by Master Teachers and School Heads using the DepEd Evaluation Tool for Non-Print Instructional Materials, which assessed the games based on content quality, instructional quality, and technical quality. Using the 4-point scale. To determine the reading skills of Grade 2 learners before and after the intervention, the Mean (M) and Standard Deviation (SD) of the pre-test and post-test scores were computed. The pre-test established the learners' initial reading proficiency, while the post-test measured improvements after the implementation of the interactive games.

Results and Discussion

Pre-Test Scores of The Grade 2 Learners Before the Use of The Developed Interactive Games

Table 1 presents the pretest scores of the Grade 2 learners before the use of the developed interactive games, showing their initial reading skill levels in both the control and experimental groups. The data indicate that the mean score of the control group is 76.30, interpreted as "Fair," while the experimental group recorded a slightly lower mean score of 76.20, likewise interpreted as "Fair." The mean difference of 0.10 suggests that both groups started at nearly the same baseline in terms of reading performance, with negligible variation between them.

Out of 10 learners in the control group, the majority, or 60%, scored below 74, classified under the "Poor" level, while 30% scored within the 75–79 range, which was considered "Fair." Only one learner, representing 10% of the group, achieved a "Satisfactory" score between 80 and 84. None of the learners in the control group reached the "Very Satisfactory" or "Outstanding" levels.

Similarly, in the experimental group, half of the learners (50%) scored below 74, while 40% fell within the "Fair" range of 75–79. Like the control group, only 10% reached the "Satisfactory" level, and no learner scored in the higher brackets of "Very Satisfactory" or "Outstanding."

This finding revealed that prior to the intervention using the developed interactive games, both groups demonstrated low to average reading proficiency, with the majority of learners in both groups falling within the "Poor" and "Fair" categories. This baseline data supported the necessity for an engaging and pedagogically sound intervention to address the learners' limited reading skills.

These findings aligned with the observations of Bumatay (2018), who noted that early grade learners in rural schools often struggled with foundational reading skills due to limited exposure to enriched learning activities and inadequate instructional materials. The similar starting points of both groups further validated the fairness of the study's design in evaluating the effectiveness of the developed interactive games.

Table 1: Pretest scores of the Grade 2 learners before the use of the developed interactive games

Scores	Control		Experimental		Level
	Frequency	Percent	Frequency	Percent	
90 and above	0	0	0	0	Outstanding
85 - 89	0	0	0	0	Very Satisfactory
80 - 84	1	10	1	10	Satisfactory
75 - 79	3	30	4	40	Fair
74 and below	6	60	5	50	Poor
Mean	76.30 (Fair)		76.20 (Fair)		
Mean Difference = 0.10					

Post-test Scores of The Grade 2 Learners After the Use of The Developed Interactive Games

Table 2 presents the post-test scores of the Grade 2 learners after the use of the developed interactive games, reflecting the improvement in reading skills in both the control and experimental groups. The data revealed that the control group had a mean score of 78.7, interpreted as "Fair," while the experimental group achieved a higher mean score of 82.9, which fell under the "Satisfactory" category. The mean difference of 4.0 indicated a notable improvement in the reading performance of learners in the experimental group compared to those in the control group.

In the control group, 10% of the learners attained an "Outstanding" level with scores of 90 and above, and

another 10% reached the "Very Satisfactory" range of 85–89. One learner (10%) scored within the "Satisfactory" bracket of 80–84, while the majority, or 50%, remained in the "Fair" category with scores between 75–79. Two learners (20%) still fell under the "Poor" level, scoring 74 and below.

In contrast, the experimental group demonstrated a stronger performance overall. One learner (10%) scored in the "Outstanding" range, while three learners each (30%) scored in the "Very Satisfactory" and "Satisfactory" levels, respectively. Three learners (30%) scored within the "Fair" range, and notably, no learner fell into the "Poor" category.

This finding suggested that the experimental group, which was exposed to the developed interactive games, experienced a greater positive shift in reading proficiency compared to the control group. The absence of "Poor" scores and the higher concentration of learners in the "Very Satisfactory" and "Satisfactory" levels in the experimental group reflected the effectiveness of the interactive games in enhancing reading skills.

These results support the findings of Dela Cruz (2020), who emphasized that game-based learning tools, when designed with instructional intent, significantly improve learner engagement and comprehension outcomes, particularly in early literacy development. The observed gains in the experimental group indicated that the developed interactive games had pedagogical value and practical utility in classroom-based reading instruction.

Table 2: Post-test scores of the Grade 2 learners after the use of the developed interactive games

Scores	Control		Experimental		Level
	Frequency	Percent	Frequency	Percent	
90 and above	1	10	1	10	Outstanding
85 - 89	1	10	3	30	Very Satisfactory
80 - 84	1	10	3	30	Satisfactory
75 - 79	5	50	3	30	Fair
74 and below	2	20	0	0	Poor
Mean	78.7 (Fair)		82.9 (Satisfactory)		
Mean Difference = 4.0					

Gain Score of the Grade 2 Learners in Reading Skills After the Intervention

The gain score referred to the difference between the posttest and pretest scores, reflecting the individual and group-level improvements in reading performance. The result would tell us that the control group recorded a mean gain score of 2.0, while the experimental group achieved a higher mean gain score of 4.1. This indicated that the learners who were exposed to the interactive games demonstrated a more substantial improvement in reading skills compared to those who received traditional instruction. Among the ten learners in the experimental group, the highest individual gain was 10 points, and several learners posted gains ranging from 4 to 7 points, suggesting consistent enhancement in reading outcomes. Notably, only one learner in the experimental group showed no improvement, and none regressed, as all scores were zero or positive except for one learner who maintained the same score.

In contrast, the control group's gains were generally more modest. Some learners posted slight improvements, such as 1 to 3 points, while others experienced no change or even regression, as seen in learners with gain scores of 0, -1, and -3. These results suggested that while traditional instruction may still produce some learning gains, the interactive game-based approach was more effective in promoting significant improvements in reading ability.

This outcome reinforced the pedagogical potential of interactive games in literacy development, consistent with the findings of Reyes and Lantingan (2019), who concluded that digital learning tools, when used appropriately, enhance motivation, engagement, and comprehension among early grade learners. The higher average gain score in the experimental group validated the effectiveness of the developed intervention and supported its potential for broader implementation in early childhood education settings.

Comparison on the Gain Score of the Respondents when Grouped according to School

Table 3 shows the comparison of gain scores in reading skills among Grade 2 learners when grouped according to school, specifically between Sabangan Elementary School and Naguilian Norte Elementary School. The data revealed that Naguilian had a mean gain score of 2.0 with a standard deviation of 3.43, while Sabangan Norte recorded a higher mean gain score of 4.10 with a slightly lower standard deviation of 3.21. This indicated that learners from Sabangan demonstrated greater improvement in reading skills after the intervention.

The computed t-value was 2.2429 with a corresponding p-value of0258, which was less than the significance level of 0.05. Therefore, the difference in gain scores between the two schools was deemed statistically significant. This meant that the observed disparity in reading gains was unlikely due to chance and could be attributed to the effects of the intervention and other contextual factors.

This result implies that the developed interactive games were more effective in enhancing reading skills at Sabangan Elementary School compared to Naguilian Norte Elementary School. Several factors may have influenced this outcome, such as variations in teacher facilitation, learner engagement, availability of technological resources, or classroom management styles.

The significant difference supported the assertion of Mendoza and Santiago (2021) that the effectiveness of instructional innovations can vary based on school context and implementation fidelity. This finding suggests the need to further examine site-specific variables that contribute to the successful integration of game-based learning in literacy instruction and to provide targeted support where the impact appears less pronounced.

Table 3: Comparison on the gain score of the respondents when grouped according to school

Schools	Mean	Standard Deviation	t-comp	P-value	Remarks
Naguilian	2.0	3.43	2.2429*	.0258	Significant
Sabangan	4.10	3.21			

*-Significant @05

Assessment on the Developed Interactive Games

The experts' assessment of the developed interactive games in terms of *Content Quality, Instructional Quality,* and *Technical Quality* shows that that the interactive games received an overall mean rating of 3.99, which was

interpreted as "Very Satisfactory." This indicated that the games were well-designed across all major evaluative criteria and were considered effective and appropriate for use in enhancing reading skills among Grade 2 learners.

In the *Content Quality* domain, all ten indicators received a perfect mean score of 4.00, interpreted as "Very Satisfactory." This signified that the content was accurate, aligned with DepEd learning competencies, logically developed, relevant to real-life situations, and free from cultural or social biases. The consistency across all indicators reflected a strong coherence in instructional intent and subject alignment, ensuring that the games met academic standards while promoting positive values and critical thinking.

The same level of performance was observed in the *Instructional Quality* component, where each of the ten items likewise received a 4.00 mean score, indicating a "Very Satisfactory" evaluation. Experts acknowledged that the material clearly stated its purpose, matched the learners' level of difficulty, promoted engagement and creativity, and integrated well with learners' prior experiences. The instructional features were also praised for allowing learner autonomy and providing effective feedback mechanisms.

Under *Technical Quality*, the games obtained a composite mean of 3.96, still within the "Very Satisfactory" range. While most items such as audio clarity, visual coherence, and screen display received high scores, a few items specifically the synchronization of audio with visuals, appropriateness of music and sound effects, navigational design, and independent usability received slightly lower mean ratings of 3.90. Nonetheless, these scores still indicated strong technical performance, with only minimal areas identified for possible refinement.

These expert ratings supported the usability and quality of the interactive games as instructional materials. The findings were consistent with the standards for multimedia educational tools outlined by the Department of Education and echoed by studies such as that of **Tolentino and Cruz (2020)**, which emphasized that effective digital learning tools must integrate accurate content, sound pedagogy, and technical accessibility to meaningfully support early grade learning. Overall, the developed interactive games were deemed pedagogically sound, learner-centered, and technically robust, making them suitable for widespread classroom application.

Questionnaire for Evaluators of The Interactive Games

Tool for Evaluation (DepEd Evaluation for Non-Print Materials)

1. Read each statement carefully and determine the extent to which the interactive games meet the described criterion.
2. Encircle or mark the appropriate rating (4, 3, 2, or 1) that best represents your evaluation.
3. Provide additional comments or recommendations (if necessary) to improve the content, instructional effectiveness, or technical aspects of the interactive games.

Please carefully review each statement and rate the material based on the following scale

Rating	Description
4	Very Satisfactory (VS) – The material fully meets the criterion and demonstrates a high level of quality.
3	Satisfactory (S) – The material meets the criterion but may require minor enhancements.
2	Poor (P) – The material partially meets the criterion and needs significant improvement.
1	Not Satisfactory (NS) – The material does not meet the criterion and requires major revisions.

Content Quality	VS4	S3	P2	NS1
1. Content is consistent with topics/skills found in the DepED Learning Competencies for the subject and grade/year level it was intended.				
2. Concepts developed contribute to enrichment, reinforcement, or mastery of the identified learning objectives.				
3. Content is accurate.				
4. Content is up-to-date.				
5. Content is logically developed and organized.				
6. Content is free from cultural, gender, racial, or ethnic bias.				
7. Content stimulates and promotes critical thinking.				
8. Content is relevant to real-life situations.				
9. Language (including vocabulary) is appropriate to the target user level.				
10. Content promotes positive values that support formative growth.				

Instructional Quality	VS4	S3	P2	NS1
1. Purpose of the material is well defined.				
2. Material achieves its defined purpose.				
3. Learning objectives are clearly stated and measurable.				
4. Level of difficulty is appropriate for the intended target user.				
5. Graphics / colors / sounds are used for appropriate instructional reasons.				
6. Material is enjoyable, stimulating, challenging, and engaging				
7. Material effectively stimulates creativity of target user.				
8. Feedback on target user's responses is effectively employed.				
9. Target user can control the rate and sequence of presentation and review.				
10. Instruction is integrated with target user's previous experience.				

Technical Quality	VS4	S3	P2	NS1
1. Audio enhances understanding of the concept.				

2. Speech and narration (correct pacing, intonation, and pronunciation) is clear and can be easily understood.				
3. There is complete synchronization of audio with the visuals, if any.				
4. Music and sound effects are appropriate and effective for instructional purposes.				
5. Screen displays (text) are uncluttered, easy to read, and aesthetically pleasing.				
6. Visual presentations (non-text) are clear and easy to interpret.				
7. Visuals sustain interest and do not distract user's attention.				
8. Visuals provide accurate representation of the concept discussed.				
9. The user support materials (if any) are effective.				
10. The design allows the target user to navigate freely through the material.				
11. The material can easily and independently be used.				

Conclusions

The use of interactive games was effective in enhancing the reading skills of Grade 2 learners in Lower Calanasan District, Calanasan, Apayao. The comparison of pre-test and post-test scores showed a notable improvement in the learners' reading proficiency after the intervention. The experimental group demonstrated higher gain scores than the control group, indicating that the use of interactive games contributed positively to learners' development in reading Moreover, the expert assessment of the interactive games in terms of content quality, instructional quality, and technical quality yielded a composite rating of "Very Satisfactory." Interactive games are educationally sound, aligned with DepEd standards, and appropriate for use in classroom instruction. Interactive games are effective pedagogical tool that fosters learner engagement, promote comprehension, support early literacy development and enhances reading skills of learners.

Recommendations

1. **The Department of Education (DepEd):** is encouraged to utilize the findings of this study to strengthen existing reading intervention programs by integrating interactive and game-based learning strategies into national literacy initiatives. The study provided empirical evidence that supported the inclusion of interactive games in early literacy programs, particularly in rural and underserved areas where learners face significant reading challenges.

2. **Curriculum developers:** are advised to consider the results of the study when designing literacy curricula. The validated interactive games demonstrated their effectiveness in improving reading skills and offered a model for structuring technology-driven, student-centered learning materials. Integrating such tools into the formal curriculum could promote engagement and comprehension among young learners.

3. **School heads and administrators:** are encouraged to adopt interactive games as part of school-based literacy interventions. The study showed that such games enhanced reading performance and learner motivation, making them a practical and effective resource for addressing literacy gaps. School leaders could allocate resources and provide training to facilitate the implementation of these materials in classrooms.

4. **Teachers:** are urged to incorporate the developed interactive games into their instructional practices. Teachers could use these tools to create a more engaging and inclusive reading environment that supports active learning.

5. **Learners:** are encouraged to embrace opportunities that give them opportunities to interact with game-based materials both in the classroom and during independent study to sustain their reading interest and progress.

6. **Parents:** are urged to support their children's reading development by encouraging the use of interactive games at home. The study highlighted the role of parents in reinforcing literacy skills outside of school. Providing access to these games and engaging in guided play at home could enhance learners' motivation and confidence in reading.

7. **Future researchers:** are encouraged to build upon the results of this study. Further investigations could explore the use of interactive games in other grade levels, subject areas, or educational contexts. Expanding research on gamified instruction and technology integration would contribute to the continuous innovation of literacy education and instructional practices.

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