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Effectiveness of Phonics-Based Gamification as A Low-Technology Teaching Strategy for Kindergarten Reading Development

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ABSTRACT

This study determined the effectiveness of using phonics-based gamification as a low-technology-based teaching strategy to enhance reading instruction among kindergarten students at Marigondon Elementary School, Lapu-Lapu City, Cebu, during the School Year 2026–2027. It utilized a quasi-experimental research design, specifically the Non-Equivalent Control Group Pretest-Posttest Design, involving two intact Kindergarten classes with 25 learners each. The control group received traditional phonics instruction, while the experimental group participated in phonics-based gamification activities. A researcher-developed Phonemic Awareness Development Assessment Tool measured learners' skills across six phonemic awareness competencies before and after the intervention. Data were analyzed using frequency counts, percentages, means, standard deviations, and an independent-samples t-test at the 0.05 significance level. Pretest results showed that all learners in both groups were classified at the Beginning level across all six skills. Posttest results showed that the experimental group significantly outperformed the control group, leading to the rejection of the null hypothesis. Learners also responded positively to the gamification activities, expressing enjoyment, active participation, and motivation to learn. Based on these findings, the study developed a Phonemic Awareness Lesson Guide as its output.

KEYWORDS

Phonics-based gamification, phonemic awareness, kindergarten learners, early literacy, low-technology instruction, first-sound identification, phoneme blending

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1. Introduction

Phonemic awareness is a fundamental component of early literacy development that refers to the ability to recognize, identify, and manipulate individual speech sounds or phonemes in spoken words (Abernathy, 2024). It enables children to understand that spoken words consist of distinct sounds that can be identified, combined, separated, and examined. This ability provides an important foundation for subsequent reading and spelling development because understanding the sound structure of words supports the acquisition of decoding skills and the development of sound-symbol relationships (Göle & TEMEL, 2024; Siregar et al., 2023). Research has shown that phonemic awareness is an important predictor of later reading achievement because it helps children understand how individual sounds contribute to word formation (Kiss & Csapó, 2024; Porta et al., 2021). Providing systematic opportunities for young learners to develop phonemic awareness is essential in preparing them for the increasing demands of formal reading instruction (Kiss et al., 2023; Wolf et al., 2024).

Globally, studies have consistently shown that gamified phonics instruction can improve essential early literacy skills, including letter-sound correspondence and word decoding (Bempt et al., 2021; Li et al., 2024). Quantitative studies have also reported improvements in pre-reading performance through structured, game-based interventions that give learners repeated practice and reinforce skills (Handayani et al., 2026; Macas-Ajila & Apolo-Buenaño, 2025). Incorporating game elements such as point systems, immediate feedback, challenges, and level-based progression transforms routine phonics exercises into interactive learning experiences that encourage motivation, participation, and sustained attention (Alalawi et al., 2025). These activities give learners opportunities to repeatedly recognize, distinguish, and manipulate speech sounds, supporting the development of foundational phonemic awareness skills (Batobato et al., 2026; Guevara et al., 2025).

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Among the foundational competencies of phonemic awareness, identifying the first sound in a word enables learners to recognize and distinguish the initial phoneme in spoken words. Phoneme blending allows them to combine individual sounds to form meaningful words, while phoneme segmentation develops their ability to separate spoken words into their constituent sounds (Bennett et al., 2023; Angel & Sideroff, 2024). Similarly, identifying the location of sounds in words, particularly in the beginning and final positions, strengthens their ability to recognize the occurrence and position of specific phonemes. Identifying words that do not belong in a given set based on their initial or final sounds further develops auditory discrimination and the ability to distinguish similarities and differences among spoken words. These competencies give learners opportunities to analyze the sound structures of language and build the foundational skills needed for later reading development (Coşkun & Kara, 2022; Sucena et al., 2023; Bear, 2022). Targeted instruction in these skills has also been associated with improvements in reading and spelling performance, underscoring the importance of developmentally appropriate phonemic awareness activities in the early years of education (Sucena et al., 2021; Barrera & Gatto, 2023). Early literacy instruction must prioritize explicit, systematic, and developmentally appropriate activities that provide learners with sufficient opportunities to identify, blend, segment, and discriminate individual speech sounds. Kindergarten classrooms are important environments for developing these foundational competencies because learners at this stage need guided instruction, meaningful interaction, and repeated opportunities to practice emerging literacy skills (Lindström-Sandahl, 2023; Cadime et al., 2024). Through structured, engaging learning experiences, teachers can help children understand spoken language and prepare for more complex reading activities. Integrating playful and systematic instructional strategies can therefore help establish a strong foundation for later literacy development (Conceição, 2026; Marti, 2024).

Despite the importance of phonemic awareness, Kindergarten teachers still face challenges in developing these competencies among young learners. Some children enter formal schooling with limited exposure to sound-identification activities and insufficient background knowledge of language sound structures. These difficulties may be further influenced by differences in learners' language backgrounds, individual learning abilities, and opportunities for literacy development at home and in school (Borre, 2024). Furthermore, limited access to specialized instructional materials can restrict teachers' ability to provide consistent, varied, and individualized learning opportunities (Almazan & Almeda, 2026a, 2026b). In some classroom settings, limited access to educational technology also restricts the use of digital instructional resources that could supplement conventional teaching practices. If these difficulties in developing phonemic awareness are not adequately addressed during the early years of education, learners may experience persistent difficulties in acquiring subsequent reading competencies. Children who have not sufficiently developed the ability to identify, blend, and segment individual speech sounds may struggle to decode unfamiliar words, recognize sound patterns, and develop reading fluency. As reading activities become increasingly complex in the succeeding grade levels, these foundational difficulties may contribute to poor reading performance, reduced classroom participation, frustration, and declining confidence in their learning abilities (Divinagracia, 2023; Oliveira et al., 2024). Furthermore, learners who continuously struggle with basic reading skills may require more intensive remediation and instructional support in later grades, potentially widening the gap between them and their peers (Gijbels et al., 2024; Nkurunziza, 2024). For teachers, these persistent difficulties may also increase the demand for individualized instruction and additional intervention activities, while schools may face greater challenges in addressing literacy deficiencies. Therefore, failing to provide appropriate and timely support for phonemic awareness development may have consequences beyond Kindergarten, affecting learners' subsequent academic progress and overall readiness for formal reading instruction. This emphasizes the importance of implementing accessible, engaging, and systematic instructional strategies that address foundational literacy difficulties before they become more persistent learning concerns.

In this regard, developing appropriate interventions that combine explicit phonics instruction with engaging learning experiences supports young learners' literacy development (Watkins & Dehaene, 2023; Bardack et al., 2023). Structured gamified activities give children repeated opportunities to practice identifying initial sounds, blending phonemes, segmenting words, recognizing sound locations, and distinguishing words by their beginning and ending sounds. Through immediate feedback, guided practice, and progressively challenging activities, learners can strengthen their understanding of individual speech sounds and improve their ability to recognize sound patterns in spoken words (Gillon et al., 2022; Fay et al., 2025). These experiences can support the development of foundational competencies necessary for subsequent reading instruction (Liang et al., 2024).

Recent studies on literacy interventions have also highlighted the potential of educational games, including digital and non-digital approaches, in supporting early literacy development through goal-oriented practice, immediate feedback, and increased learner engagement (Vasalou et al., 2021). Research indicates that game-based learning environments can improve phonological awareness and related foundational literacy competencies compared with conventional instructional approaches (Savarinathan & Karim, 2025). However, the effectiveness of these interventions depends not only on the instructional medium but also on the quality of teacher guidance, the appropriateness of the activities, and the opportunities for meaningful learner participation (Bora et al., 2024; Parry et al., 2024). Although digital platforms such as GraphoGame have demonstrated potential in supporting phonological processing (Serra & Gilabert, 2021), their implementation may be limited in schools where access to technological equipment and reliable internet connectivity is inadequate. Consequently, further research is needed on low-technology gamification as an alternative that incorporates the instructional principles of game-based learning through physical and manipulative-based classroom activities (Konkewicz et al., 2026; Wilson et al., 2021). By using accessible materials and teacher-

facilitated activities, this approach may provide a practical way to support phonemic awareness development in classrooms with limited technological resources (Wang et al., 2024; Cano et al., 2024; Pérez-Godoy & Fernández-Olivo, 2026).

In the context of Kindergarten education, Marigondon Elementary School in Lapu-Lapu City, Cebu is an appropriate setting for examining the application of low-technology instructional strategies in early literacy development. As a public elementary school with an established Kindergarten program and existing classroom learning arrangements, the school provides an environment where teachers can implement accessible, practical instructional interventions. Low-technology, phonics-based gamification is particularly relevant in this setting because it allows teachers to integrate interactive, developmentally appropriate activities into classroom instruction without relying heavily on digital resources. By using tangible learning materials, structured games, and teacher-guided practice, the intervention can be incorporated into regular phonics instruction while giving learners additional opportunities to develop foundational literacy competencies.

Despite the growing body of literature on gamified literacy instruction, research still needs to examine the effectiveness of low-technology, phonics-based gamification, particularly in Philippine public Kindergarten classrooms. While existing studies have explored digital game-based learning and other technology-supported approaches, further investigation is needed to determine whether physical, teacher-facilitated game activities can meaningfully improve learners' phonemic awareness. In particular, comparing learners exposed to low-technology, phonics-based gamification with those receiving conventional phonics instruction can provide empirical evidence on this instructional strategy's contribution to foundational literacy development. Furthermore, examining learners' reactions to the gamification activities can provide additional insights into their participation, enjoyment, and responses to the intervention (Anderle et al., 2025). Hence, this study seeks to determine the effectiveness of phonics-based gamification as a low-technology teaching strategy in enhancing the phonemic awareness of Kindergarten learners at Marigondon Elementary School, Lapu-Lapu City, Cebu, during School Year 2026–2027.

2. Literature Review

Developing phonemic awareness during Kindergarten is essential because beginning readers must learn to recognize and manipulate the individual sounds that constitute spoken words. Evidence from classroom-based interventions suggests that young learners benefit from systematic and engaging activities that focus on particular sound skills rather than treating phonological awareness as a single general competency. Abdon and Barrios (2022) found that phonological-awareness intervention conducted in the learners' mother tongue could strengthen early literacy performance among Filipino Kindergarten learners, illustrating the value of developmentally and linguistically appropriate instruction. Bennett et al. (2023) likewise reported that structured phonological-awareness activities implemented with preschool children could improve their awareness of speech sounds. In technology-supported contexts, Parry et al. (2024) showed that tablet-assisted phonological-awareness and phonics instruction can provide meaningful opportunities for practicing foundational literacy skills when digital activities are aligned with instructional objectives. Sümer Dodur et al. (2024) further demonstrated that interventions targeting phonological awareness can contribute to early literacy development, particularly when instruction deliberately addresses component skills. In the Philippine context, Genobia and Basmayor (2025) also examined video-supported phonemic-awareness instruction among Kindergarten learners, indicating that visually engaging and auditory-based materials can be incorporated into beginning literacy instruction. Together, these studies support the use of structured activities that allow learners to identify beginning sounds, blend separate phonemes, segment words into their component sounds, and determine the position of sounds within words.

Game-oriented and interactive instructional strategies may be particularly appropriate for Kindergarten because they allow children to practice difficult literacy skills through repetition, participation, and immediate feedback. Hechanova et al. (2025) reported improvements in Kindergarten phonemic awareness through learning activities organized around play, demonstrating the potential of game-like tasks for sustaining children's participation in sound-based instruction. Similarly, Dobles and Marquez (2025) examined play-based learning in relation to phonemic awareness and emphasized the instructional value of active learning experiences for young children. Sutfin (2025) also highlighted the importance of deliberately building early phonemic-awareness skills through structured opportunities for sound identification and manipulation. More recently, Codilla and Codilla (2026) explored contextualized video lessons intended to improve phonemic awareness among Kindergarten pupils, further supporting the use of engaging instructional resources adapted to learners' developmental needs. Veloso (2026), although focused on early-grade reading instruction more broadly, emphasized the importance of purposeful teaching practices in developing foundational reading performance. These studies provide a basis for examining phonics-based gamification as a low-technology intervention, where picture cards, sound-matching games, sorting activities, oral challenges, movement-based tasks, and other non-digital materials can be used to practice first-sound identification, phoneme blending, phoneme segmentation, beginning and final sound location, and discrimination of words based on their initial and final phonemes.

3. Methodology

This study employed a quasi-experimental research design, specifically the Non-Equivalent Control Group Pretest–Posttest Design, to determine the effectiveness of phonics-based gamification as a low-technology teaching strategy for improving the phonemic awareness of Kindergarten learners. The study was conducted at Marigondon Elementary School, Lapu-Lapu City, during School Year 2026–2027. A total of 50 Kindergarten pupils participated in the study and were distributed into two intact sections consisting

of 25 learners each. One section served as the experimental group, while the other served as the control group. Purposive sampling was used because the study utilized existing classes that shared comparable characteristics and were appropriate for the intended intervention. The primary research instrument was a researcher-made Phonemic Awareness Development Assessment Tool aligned with the Kindergarten Curriculum Guide and early childhood literacy competencies. The instrument assessed six skills: identifying first sounds, blending phonemes, segmenting words into phonemes, identifying the location of beginning and final sounds, and identifying words that did not belong based on initial and final sounds. The instrument was subjected to expert validation prior to administration. Both groups completed a pretest before the intervention. The experimental group then participated in phonics-based gamification activities such as First Sound Safari, The Secret Smoothie Machine, Phoneme Floor Hopscotch, Sound Conductor Express, and The Sound Imposter Detective, while the control group received conventional phonics instruction using flashcards, printed charts, and worksheets. After the intervention, both groups completed the same posttest. Ethical procedures included securing administrative approval, obtaining parental consent, ensuring voluntary participation, maintaining confidentiality, and assigning participant codes. Data were analyzed using frequency, percentage, mean, and standard deviation. A paired-samples t-test was used to compare pretest and posttest scores within each group, while an independent-samples t-test determined whether the posttest performance of the experimental and control groups differed significantly at the 0.05 level of significance.

4. Results

Table 1. Identifying First Sound

Level of Phonemic Awareness	Percentage Range	Control Group f	Percentage	Experimental Group f	Percentage
Consistent (CO)	91–100%	0	0.00%	0	0.00%
Developing (DV)	75–90%	0	0.00%	0	0.00%
Beginning (BG)	74% and below	25	100.00%	25	100.00%
Total		25	100.00%	25	100.00%

Table 1 shows that all learners in both the control and experimental groups were classified at the Beginning level in identifying first sounds during the pretest. None of the learners reached the Developing or Consistent levels. This indicates that both groups had comparable and limited phonemic-awareness skills before the intervention. The result implies a clear need for focused instruction on first-sound identification and provides a suitable baseline for determining the effectiveness of phonics-based gamification after the intervention.

Table 2. Blending Phonemes

Level of Phonemic Awareness	Percentage Range	Control Group f	Percentage	Experimental Group f	Percentage
Consistent (CO)	91–100%	0	0.00%	0	0.00%
Developing (DV)	75–90%	0	0.00%	0	0.00%
Beginning (BG)	74% and below	25	100.00%	25	100.00%
Total		25	100.00%	25	100.00%

Table 2 indicates that all learners in both the control and experimental groups were classified at the Beginning level in blending phonemes during the pretest. No learner reached the Developing or Consistent levels. This shows that both groups initially had difficulty combining individual sounds to form words and had comparable baseline performance. The result implies a need for explicit and repeated blending activities and provides a clear basis for assessing whether phonics-based gamification can improve learners' phoneme-blending skills after the intervention.

Table 3. Segmenting Words

Level of Phonemic Awareness	Percentage Range	Control Group f	Percentage	Experimental Group f	Percentage
Consistent (CO)	91–100%	0	0.00%	0	0.00%
Developing (DV)	75–90%	0	0.00%	0	0.00%
Beginning (BG)	74% and below	25	100.00%	25	100.00%
Total		25	100.00%	25	100.00%

Table 3 shows that all learners in both the control and experimental groups were classified at the Beginning level in segmenting words during the pretest. None of the learners reached the Developing or Consistent levels, indicating that both groups initially had difficulty breaking spoken words into individual phonemes. This suggests comparable baseline performance between the two

groups. The finding implies a need for explicit and guided segmentation activities and provides a basis for evaluating the effectiveness of phonics-based gamification in improving this skill.

Table 4. Identifying Location

Level of Phonemic Awareness	Percentage Range	Control Group f	Percentage	Experimental Group f	Percentage
Consistent (CO)	91–100%	0	0.00%	0	0.00%
Developing (DV)	75–90%	0	0.00%	0	0.00%
Beginning (BG)	74% and below	25	100.00%	25	100.00%
Total		25	100.00%	25	100.00%

Table 4 shows that all learners in both the control and experimental groups were classified at the Beginning level in identifying the location of sounds during the pretest. No learner reached the Developing or Consistent levels, indicating difficulty in determining whether a sound occurred at the beginning or end of a word. This result suggests similar baseline performance across both groups. The finding implies a need for focused activities that strengthen sound-position recognition and provides a basis for assessing the effect of phonics-based gamification after intervention.

Table 5. Identifying the Word That Does Not Belong – Initial Sound

Level of Phonemic Awareness	Percentage Range	Control Group f	Percentage	Experimental Group f	Percentage
Consistent (CO)	91–100%	0	0.00%	0	0.00%
Developing (DV)	75–90%	0	0.00%	0	0.00%
Beginning (BG)	74% and below	25	100.00%	25	100.00%
Total		25	100.00%	25	100.00%

Table 5 shows that all learners in both the control and experimental groups were classified at the Beginning level in identifying the word that did not belong based on its initial sound. None of the learners reached the Developing or Consistent levels. This indicates that both groups initially had difficulty discriminating words according to their beginning sounds. The finding implies a need for targeted sound-discrimination activities and provides a comparable baseline for evaluating the effectiveness of phonics-based gamification after the intervention.

Table 6. Identifying the Word That Does Not Belong – Final Sound

Level of Phonemic Awareness	Percentage Range	Control Group f	Percentage	Experimental Group f	Percentage
Consistent (CO)	91–100%	0	0.00%	0	0.00%
Developing (DV)	75–90%	0	0.00%	0	0.00%
Beginning (BG)	74% and below	25	100.00%	25	100.00%
Total		25	100.00%	25	100.00%

Table 6 shows that all learners in both the control and experimental groups were classified at the Beginning level in identifying the word that did not belong based on its final sound. None of the learners reached the Developing or Consistent levels. This indicates that both groups initially had difficulty discriminating words according to ending sounds. The finding implies a need for focused final-sound discrimination activities and provides a comparable baseline for determining the effect of phonics-based gamification after the intervention.

Table 7. Posttest Profile of the Learners in the Control Group

Phonemic Awareness Competencies	Beginning f (%)	Developing f (%)	Consistent f (%)
Identifying the first sound in a word	12 (48%)	11 (44%)	2 (8%)
Blending phonemes in words	20 (80%)	5 (20%)	0 (0%)
Segmenting words into phonemes	21 (84%)	4 (16%)	0 (0%)
Identifying the location of sounds in words	20 (80%)	5 (20%)	0 (0%)

Phonemic Awareness Competencies	Beginning f (%)	Developing f (%)	Consistent f (%)
Identifying the word that does not belong based on initial sound	22 (88%)	3 (12%)	0 (0%)
Identifying the word that does not belong based on final sound	16 (64%)	9 (36%)	0 (0%)

Table 7 shows that the control group demonstrated some improvement during the posttest, although most learners remained at the Beginning level across the assessed phonemic-awareness competencies. The strongest performance was observed in identifying the first sound in a word, where 44% reached the Developing level and 8% attained the Consistent level. In contrast, the highest proportion of learners at the Beginning level was recorded in identifying the word that did not belong based on initial sound. The results imply that conventional instruction produced limited gains, particularly in blending, segmentation, sound-location identification, and sound discrimination. These findings provide an important comparison point for evaluating whether phonics-based gamification produced greater improvement in the experimental group.

Table 8. Posttest Profile of the Learners in the Experimental Group

Phonemic Awareness Competencies	Beginning f (%)	Developing f (%)	Consistent f (%)
Identifying the first sound in a word	8 (32%)	8 (32%)	9 (36%)
Blending phonemes in words	15 (60%)	9 (36%)	1 (4%)
Segmenting words into phonemes	14 (56%)	4 (16%)	7 (28%)
Identifying the location of sounds in words	9 (36%)	11 (44%)	5 (20%)
Identifying the word that does not belong based on initial sound	8 (32%)	5 (20%)	12 (48%)
Identifying the word that does not belong based on final sound	3 (12%)	11 (44%)	11 (44%)

Table 8 shows that the experimental group demonstrated notable improvement in phonemic-awareness performance after the intervention. The strongest outcomes were observed in identifying the word that did not belong based on initial sound, where 48% reached the Consistent level, and in final-sound discrimination, where 44% were Consistent and another 44% were Developing. Improvements were also evident in first-sound identification, segmentation, and sound-location identification. However, blending phonemes remained the most challenging competency, with 60% still at the Beginning level. The findings imply that phonics-based gamification was particularly effective in strengthening sound discrimination and sound-position skills, although additional support may still be needed for blending.

Table 9. Significant Difference Between the Control and Experimental Groups in Their Posttest Levels of Phonemic Awareness

Group	N	Mean	SD	Mean Difference	t-value	df	p-value	Decision on H_0	Interpretation
Control Group	25	102.76	12.15						
Experimental Group	25	120.44	12.68	-17.68	-5.03	47.91	< .001	Reject H_0	Significant

Table 9 shows a statistically significant difference between the posttest phonemic-awareness scores of the control and experimental groups. The experimental group obtained a higher mean score of 120.44 compared with 102.76 for the control group, with a mean difference of 17.68 points. The reported t-value of -5.03 and p-value below .001 indicate that the difference was statistically significant; thus, the null hypothesis was rejected. This finding implies that learners exposed to phonics-based gamification performed better than those who received conventional phonics instruction. The result supports the effectiveness of the intervention in strengthening Kindergarten learners' phonemic-awareness skills.

Table 10. Reactions of the Learners to the Gamification Activities

Theme	Frequency (f)	Percentage (%)
Enjoyment and Excitement	23	92.00%
Active Participation	21	84.00%
Motivation to Learn	19	76.00%
Peer Interaction and Collaboration	18	72.00%
Desire for More Activities	16	64.00%

Table 10 shows that the learners generally responded positively to the gamification activities. Enjoyment and excitement emerged as the most common reaction, reported by 92% of the learners, followed by active participation at 84% and motivation to learn at 76%. Peer interaction and collaboration were also evident among 72% of the learners, while 64% expressed a desire for more similar activities. These findings imply that phonics-based gamification not only supported learning but also increased engagement, participation, motivation, and social interaction during instruction.

5. Discussion

The findings showed that all learners in both the control and experimental groups were initially classified at the Beginning level across all six phonemic-awareness competencies. These included identifying the first sound in a word, blending phonemes, segmenting words into phonemes, identifying the location of sounds, and identifying words that did not belong based on initial and final sounds. This comparable baseline indicates that both groups entered the study with similarly limited phonemic-awareness skills. Such findings are consistent with the view that young learners require explicit and systematic instruction to develop awareness of individual speech sounds and their manipulation. Ehri (2022) emphasized that phonemic awareness, particularly sound identification, blending, segmentation, and letter–sound connections, is essential to beginning reading development. Similarly, Rice et al. (2022) found that structured phonemic-awareness instruction produces positive effects on early literacy performance, while Rehfeld et al. (2022) highlighted the value of focused instruction in developing specific phonemic-awareness components. The uniformly low pretest performance therefore supports the need for an intervention that provides repeated and engaging practice in these foundational skills.

Moreover, the posttest findings demonstrated a clearer advantage for the experimental group. Although the control group showed some improvement, most learners remained at the Beginning level in several competencies. In contrast, the experimental group showed stronger gains, particularly in identifying first sounds, locating sounds, segmenting phonemes, and discriminating words according to initial and final sounds. The experimental group also obtained a significantly higher posttest mean than the control group, with the difference reaching statistical significance at $p < .001$. This suggests that phonics-based gamification contributed meaningfully to the improvement of learners' phonemic-awareness performance. The positive learner reactions further strengthen this interpretation, as most participants reported enjoyment, active participation, motivation, peer interaction, and interest in additional activities. These findings are consistent with Hechanova et al. (2025), who reported improvements in Kindergarten phonemic awareness through play-oriented activities, and Dobles and Marquez (2025), who likewise emphasized the value of play-based learning in supporting phonemic-awareness development. Overall, the findings suggest that phonics-based gamification can be an effective low-technology instructional strategy because it combines systematic sound practice with participation, repetition, and learner engagement.

6. Conclusion

This study shows that phonics-based gamification is associated with an effective low-technology teaching strategy for enhancing the phonemic awareness of Kindergarten learners. Although learners in both groups initially demonstrated Beginning-level performance across all six competencies, the Experimental Group obtained significantly higher posttest scores than the Control Group, which indicates the positive contribution of the gamification activities to learners' phonemic awareness performance. Furthermore, learners reported favorable reactions, particularly enjoyment, active participation, motivation, and collaboration, suggesting that integrating game-based activities into instruction can promote an engaging and participatory learning environment. However, continued instructional support is necessary, particularly in phoneme blending and segmentation, as these remained challenging competencies for many learners.

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