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Enhancing phonemic awareness through interactive phonics games among kindergarten pupils

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Abstract

This study determined the effectiveness of interactive phonics games in enhancing the phonemic awareness of Kindergarten pupils at St. Scholastica's College Tacloban, Inc. during the School Year 2025–2026. Specifically, it assessed the pupils' level of phonemic awareness before and after the intervention, examined the significant difference between pre-test and post-test scores, and described pupils' engagement and learning experiences during the implementation of the activities. The study employed an action research design using purposive sampling to select Kindergarten pupils who required support in phonemic awareness skills. Data were gathered through a teacher-made phonemic awareness test, an observation checklist, and reflective journal entries. The intervention consisted of interactive phonics games implemented over a five-week period. Descriptive statistics such as mean and percentage were used to analyze the pupils' level of phonemic awareness, while a paired t-test determined the significance of the difference between pre-test and post-test scores. Qualitative data were analyzed thematically to describe pupils' engagement and learning experiences. Findings revealed that the pupils' mean score improved from 25.94 in the pre-test to 28.82 in the post-test, both interpreted as High. The computed t-value of 4.87 exceeded the critical t-value of 2.120, indicating a significant difference between the two sets of scores. The observation checklist yielded an overall mean of 2.79, interpreted as "Always Observed," indicating high engagement and participation. The study concludes that interactive phonics games effectively enhance phonemic awareness and promote active learning among Kindergarten pupils. It is recommended that teachers integrate interactive and play-based strategies in teaching early literacy skills to improve learners' reading readiness.

Keywords: phonemic awareness, interactive phonics games, Kindergarten pupils, early literacy, action research, sound blending

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1. Introduction

The development of early literacy skills is a fundamental goal of the K–12 Curriculum, particularly during the early childhood years when foundational reading abilities are established. One of the most essential components of early literacy is phonemic awareness, which refers to the ability to hear, identify, and manipulate individual sounds in spoken words. This skill is considered a strong predictor of future reading success and is crucial in helping young learners become proficient readers. Research has consistently emphasized the importance of phonemic awareness in reading development. Adams (1990) explained that phonemic awareness enables learners to understand the relationship between sounds and printed letters, which is essential for decoding words. Similarly, Ehri (2005) found that children who develop strong phonemic awareness are more likely to read fluently and accurately. These findings suggest that phonemic awareness serves as a foundation upon which later reading comprehension and literacy skills are built. However, many young learners experience difficulties in recognizing and manipulating sounds, which negatively affects their reading development and academic progress.

In response to these challenges, educational researchers have explored various instructional approaches to strengthen phonemic awareness among young learners. Among these, play-based and interactive learning approaches have been identified as particularly effective in early childhood education. Piaget (1962) emphasized that children learn best through active engagement and play, while Vygotsky (1978) highlighted the importance of social interaction in cognitive development. These theoretical perspectives support the integration of interactive phonics games as meaningful tools for literacy instruction. Interactive phonics games provide opportunities for learners to actively participate in sound-based activities through movement, exploration, and collaboration. Such activities not only make learning enjoyable but also increase motivation and attention, which are essential factors in effective early literacy instruction. Torgesen (2002) found that systematic phonics instruction combined with engaging activities significantly improves learners' phonemic awareness and reading performance. This suggests that integrating interactive phonics games into classroom instruction can effectively address learners' difficulties in early reading.

In the Philippine context, challenges in early literacy remain evident. The Department of Education (2019) reported that many learners in the primary grades struggle with basic reading skills, particularly in phonics and sound recognition. This concern is further reflected in national and international assessments of literacy performance. The results of the Programme for International Student Assessment (PISA) showed that Filipino learners continue to face difficulties in reading comprehension and foundational literacy skills (Marcelo, 2025). These findings highlight the urgent need for effective and engaging instructional strategies that can address early literacy challenges in local classroom settings.

Recent educational efforts in the Philippines have emphasized the use of contextualized and learner-centered approaches to improve foundational reading competencies. Classroom-based interventions that incorporate play, interaction, and hands-on activities have shown promise in enhancing literacy outcomes among young learners. These approaches are especially relevant in Kindergarten classrooms, where learners benefit most from developmentally appropriate and experiential learning opportunities. Despite the availability of various teaching strategies, there remains a need for localized action research that examines the effectiveness of structured interactive phonics interventions among Kindergarten learners in Philippine schools. While previous studies have established the general benefits of phonics instruction, limited classroom-based research has specifically investigated how interactive phonics games influence the phonemic awareness of learners in Tacloban City. Furthermore, few studies have combined quantitative measures of phonemic awareness improvement with qualitative observations of learner engagement during play-based interventions.

What distinguishes this study is its implementation of a structured five-week interactive phonics intervention specifically designed for Kindergarten pupils in a Philippine private school context. Unlike broader phonics studies, this research focuses on three targeted skill areas: initial sound identification, letter-sound matching, and sound blending. It also integrates both statistical analysis and classroom observation to evaluate not only learners' academic progress but also their engagement and participation throughout the intervention.

In the researcher's classroom at St. Scholastica's College Tacloban, Inc., many Kindergarten pupils demonstrated difficulty in identifying beginning sounds, matching letters to corresponding sounds, and blending sounds to form words. These observed challenges indicated the need for an intervention that is both engaging and effective in strengthening phonemic awareness skills. Hence, this action research aims to enhance the phonemic awareness of Kindergarten pupils using interactive phonics games. Specifically, it seeks to determine the effectiveness of these games in improving learners' phonemic awareness skills and to describe their engagement during the intervention. The findings of this study may provide valuable insights for teachers, school administrators, and curriculum developers in designing developmentally appropriate instructional strategies that support early literacy development.

Statement of the Problem - This action research aims to enhance the phonemic awareness of Kindergarten pupils at St. Scholastica's College Tacloban Inc. during the School Year 2025–2026 using interactive phonics games. Specifically, it seeks to answer the following questions:

- What is the pre-intervention level of phonemic awareness among the pupils in terms of Initial sound identification; Letter–sound matching; and Sound blending?
- Is there a significant difference between the pre-test and post-test scores of the pupils after the implementation of interactive phonics games?
- What are the experiences and observations of the teacher-researcher regarding the pupils' engagement and progress during the play-based intervention?

2. Methodology

This study employed an action research design to determine the effectiveness of interactive phonics games in enhancing the phonemic awareness of Kindergarten pupils. Action research is appropriate for this study as it focuses on improving classroom practices and addressing learners' immediate learning needs. The respondents of the study were selected using purposive sampling. Specifically, the participants consisted of Kindergarten pupils from St. Scholastica's College Tacloban Inc. who were identified based on their pre-test scores in phonemic awareness. The pre-test covered three areas: initial sound identification, letter–sound matching, and sound blending, with ten (10) items in each area for a total of thirty (30) items. The pupils' scores were interpreted using the following criteria: 24–30 as High Phonemic Awareness, 16–23 as Developing, and 0–15 as Needs Improvement. Pupils who obtained scores within the Developing and Needs Improvement levels were included as respondents in the study. These learners were intentionally selected as they require instructional support and are the primary beneficiaries of the intervention. This approach ensures that the phonics-based intervention is directed toward learners who need improvement in phonemic awareness skills.

The study utilized three research instruments: a teacher-made phonemic awareness test, an observation checklist, and field notes. The phonemic awareness test was used as both pre-test and post-test to measure pupils' skills in initial sound identification, letter–sound matching, and sound blending. The observation checklist was used to monitor pupils' engagement and participation during the intervention, while field notes were used to document observations and reflections of the teacher-researcher. The intervention consisted of a series of interactive phonics games conducted over five weeks. These activities included Sound Scavenger Hunt, Shoot and Sound Ball, and I Spy Blending, which were designed to target specific phonemic awareness skills. The pre-test was administered before the intervention, and the post-test was conducted after the completion of all activities.

For data analysis, descriptive statistics such as mean and percentage were used to determine the level of phonemic awareness. A paired t-test was utilized to determine whether there was a significant difference between pre-test and post-test scores. Qualitative data gathered from observations and field notes were analyzed thematically to describe pupils' engagement and learning experiences.

Ethical Considerations - Prior to the conduct of the study, formal approval was secured from the Academic Coordinator of St. Scholastica's College Tacloban, Inc. Written informed consent was obtained from the parents or legal guardians of all participating pupils before their inclusion in the study. Participation was voluntary, and parents were informed of the nature, purpose, and procedures of the research. Confidentiality and anonymity were strictly maintained using coded identifiers instead of pupil names in all data recording and analysis. All research activities were developmentally appropriate and designed to support learners' educational growth without causing any form of psychological, emotional, or academic risk.

3. Results and discussion

This section presents the analysis and interpretation of data gathered to determine the effectiveness of interactive phonics games in enhancing the phonemic awareness of Kindergarten pupils. Descriptive statistics such as mean and percentage were used, and a paired t-test was employed to determine the significance of the difference between pre-test and post-test scores. Qualitative data from observations and reflective journals were also analyzed to support the findings.

3.1 Level of Phonemic Awareness Before and After the Intervention

Table 1.1
Summary of Pre-Test and Post-Test Scores

Test	Lowest Score	Highest Score
Pre-Test	17	30
Post-Test	24	30

Table 1.2
Mean Scores of Pupils

Test	Mean	Interpretation
Pre-Test	25.94	High
Post-Test	28.82	High

Table 1 shows that the pupils' pre-test scores ranged from 17 to 30, while post-test scores ranged from 24 to 30, indicating an overall improvement in performance after the intervention. As shown in Table 2, the pre-test mean score of 25.94 is interpreted as High, indicating that pupils already had a foundational level of phonemic awareness prior to the intervention. However, after the implementation of interactive phonics games, the mean score increased to 28.82, which is also within the High level but significantly higher than the pre-test mean. This improvement suggests that the intervention enhanced pupils' phonemic awareness skills, particularly in more complex areas such as sound blending, where several pupils initially had low scores.

3.2 Significant Difference Between Pre-Test and Post-Test Scores

Table 2
Paired t-test Result

Computed t-value	Critical t-value	Decision	Interpretation
4.87	2.120	Reject Ho	Significant

Table 3 presents the result of the paired t-test used to determine whether there is a significant difference between the pre-test and post-test scores. The computed t-value of 4.87 is greater than the critical t-value of 2.120 at the 0.05 level of significance. This result leads to the rejection of the null hypothesis. This indicates that there is a significant difference between the pre-test and post-test scores of the pupils. Therefore, the improvement in phonemic awareness is not due to chance but is attributed to the use of interactive phonics games.

3.3 Pupils' Engagement and Participation During the Intervention

Table 3
Mean Scores per Indicator (Observation Checklist)

Indicator	Mean	Interpretation
Identifies initial sounds	2.76	Always Observed
Matches letter–sound	2.71	Always Observed
Blends sounds	2.35	Sometimes Observed
Recognizes sound relationships	2.35	Sometimes Observed
Participates actively	3.00	Always Observed
Shows interest	3.00	Always Observed
Follows instructions	3.00	Always Observed
Responds to prompts	3.00	Always Observed

Table 4
Overall Mean of Observation Checklist

Overall Mean	Interpretation
2.79	Always Observed

The observation checklist results revealed that pupils' phonemic awareness skills and participation during the intervention were generally "Always Observed," with an overall mean score of 2.79. The highest mean scores (3.00) were observed in pupils' participation, interest, and responsiveness, indicating that the interactive phonics games created a highly engaging learning environment. However, slightly lower mean scores were recorded in sound blending and sound recognition (2.35), suggesting that these skills were more challenging for some pupils. Despite this, the results still indicate progress and improvement. These findings imply that interactive phonics games not only improve academic performance but also enhance pupils' engagement and motivation, which are essential in early childhood learning.

3.4 Pupils' Learning Experiences During the Intervention

Results (Reflective Journal Summary). The reflective journal entries revealed that pupils were enthusiastic, active, and highly engaged during the phonics activities. Most pupils were able to correctly identify sounds and participate in the games. However, some pupils had trouble in distinguishing certain sounds and required teacher support. Strategies such as modeling, prompting, and the use of visual aids were found to be effective in addressing these challenges. The qualitative findings support the quantitative results by showing that pupils learned effectively through interactive and play-based activities. The use of phonics games provided a meaningful and enjoyable learning experience. The need for teacher guidance highlights the importance of scaffolding in early literacy instruction. Despite some challenges, pupils demonstrated improvement and increased confidence in performing phonemic tasks.

The findings of the study consistently demonstrate that interactive phonics games are effective in enhancing phonemic awareness among Kindergarten pupils.

- The increase in mean scores indicates improvement in performance
- The significant t-test result confirms the effectiveness of the intervention
- The observation checklist shows high levels of engagement
- The reflective journal provides evidence of positive learning experiences

These results suggest that integrating interactive phonics games in classroom instruction is an effective strategy for improving early literacy skills.

This study aimed to determine the effectiveness of interactive phonics games in enhancing the phonemic awareness of Kindergarten pupils at St. Scholastica's College Tacloban, Inc. Specifically, it sought to assess the pupils' phonemic awareness before and after the intervention, determine whether there was a significant difference

between pre-test and post-test scores, and describe pupils' engagement and learning experiences during the intervention. The findings of the study revealed the following:

- The pupils obtained a mean score of 25.94 in the pre-test and 28.82 in the post-test, both interpreted as High, indicating an improvement in phonemic awareness after the intervention.
- The computed t-value of 4.87 was greater than the critical t-value of 2.120, indicating a significant difference between the pre-test and post-test scores.
- The observation checklist yielded an overall mean of 2.79, interpreted as "Always Observed," showing that pupils were highly engaged and actively participated during the phonics activities.
- Reflective journal entries revealed that pupils were enthusiastic and motivated during the intervention, although some had trouble in more complex skills such as sound blending, which required teacher support.

Practical Educational Implications

- The findings of this study offer important implications for educational practice, particularly in early childhood literacy instruction.
- For teachers, the results suggest that integrating interactive phonics games into classroom instruction can effectively strengthen phonemic awareness while increasing learner engagement and participation.
- For learners, play-based phonics activities provide enjoyable and meaningful learning experiences that support confidence-building and active literacy development.
- For schools, the findings support the implementation of structured phonics intervention programs and professional development initiatives focused on interactive literacy instruction.
- For curriculum developers, this study highlights the value of incorporating contextualized, game-based literacy activities into Kindergarten instructional frameworks.
- These implications affirm that interactive phonics instruction is not only effective in improving literacy outcomes but also practical for classroom implementation.

4. Conclusion

The findings of this study demonstrate that interactive phonics games significantly enhanced the phonemic awareness of Kindergarten pupils. The statistically significant improvement in post-test scores confirms the effectiveness of structured play-based phonics intervention in strengthening foundational literacy skills. Beyond measurable academic gains, the intervention fostered high levels of learner engagement, participation, and motivation. This indicates that interactive approaches create supportive learning environments that encourage active literacy development. The study contributes to the growing body of Philippine-based classroom action research by providing evidence that structured, context-sensitive phonics interventions can address early literacy challenges effectively.

Recommendations - Based on the findings and conclusions of the study, the following recommendations are proposed:

- *For Teachers* - Teachers are encouraged to incorporate interactive phonics games into their daily instruction to enhance pupils' phonemic awareness and engagement in learning.
- *For School Administrators* - School administrators may support the implementation of play-based and interactive learning strategies by providing training, materials, and resources for teachers.

- *For Curriculum Developers* - Curriculum planners may consider integrating more game-based phonics activities into early childhood programs to strengthen foundational literacy skills.
- *For Parents/Guardians* - Parents may reinforce phonemic awareness skills at home by engaging children in simple sound-based activities and games.
- *For Future Researchers* - Future studies may explore the effectiveness of interactive phonics games in different grade levels or investigate other strategies that support phonemic awareness and early literacy development.

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