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Development, Acceptability and Effectiveness of Phonemic Awareness Learning Resource for Kindergarten Learners

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Abstract

This study focused on the development, acceptability, and effectiveness of a phonemic awareness learning resource for kindergarten learners in selected public elementary schools in Pasig City during the School Year 2025–2026. The participating schools were Caniogan, De Castro, Manggahan, Maybunga-Annex, Maybunga-Main, Napico, and Rosario Elementary Schools. The study employed developmental, descriptive, and experimental research designs. Forty-six teacher-respondents, considered experts in early childhood education, evaluated the learning resource's acceptability, while 30 kindergarten learners were exposed to the resource to determine its impact on reading performance.The acceptability of the learning resource was assessed using a researcher-made questionnaire-checklist focusing on objectives, content, learning activities, format and language, and usefulness. Results indicated that teachers found the resource highly acceptable across all aspects. Analysis revealed no significant differences in acceptability when teachers were grouped by civil status, educational attainment, position, length of service, or in-service trainings attended; however, age was a significant factor in perceived usefulness, suggesting generational differences in teaching preferences and familiarity with digital or play-based learning tools.Effectiveness was measured through pretest and posttest assessments of learners' phonemic awareness skills. Findings showed a significant improvement in reading performance, with learners progressing from the Instructional level to the Independent level after exposure to the developed resource. The learning resource was designed to be interactive, multisensory, and aligned with the Kindergarten Curriculum Guide, emphasizing play-based activities that enhance sound recognition, blending, and segmenting skills.The study concludes that the developed learning resource is both acceptable and effective in supporting early literacy development among kindergarten learners. It recommends piloting the resource in other classrooms, integrating it into the curriculum, providing continuous teacher training, producing similar digital or play-based learning tools, offering continuous learner feedback, and regularly revising the material to maintain relevance. Parallel studies on acceptability and effectiveness are encouraged to further validate and expand its use.

Keywords: Phonemic Awareness, Kindergarten Learners, Early Literacy, Learning Resource, Play-Based Learning, Reading Performance, Curriculum Development

1. Introduction

Education serves as a fundamental instrument for the holistic development of individuals, enabling them to actively participate in society and sustain cultural continuity amidst globalization and modernization. Interactions with the environment—through family, school, community, or workplace—significantly influence personal growth. As a collective and historical phenomenon, culture depends on continual transmission and enrichment, a purpose often achieved through organized education. Schools, as the most visible educational institutions, play a central role in developing learners' potential by transmitting knowledge, shaping values, and fostering competencies that empower them to contribute meaningfully to society.

In the Philippine context, the 1987 Constitution (Article XIV, Section 1) mandates the State to "protect and promote the right of all citizens to quality education at all levels and shall take appropriate steps to make such education accessible to all." Complementing this, Republic Act No. 12028, or the Academic Recovery and Accessible Learning (ARAL) Program, emphasizes targeted interventions for learners struggling in foundational subjects such as reading, mathematics, and science. Early identification of reading difficulties and provision of structured instructional support are central to this initiative, ensuring all children attain the competencies prescribed by the Department of Education (DepEd). The early years of education present unique learning opportunities for children, emphasizing multisensory exploration, social interactions, and the cultivation of literacy skills. Early literacy, particularly reading proficiency, is foundational for academic success. Teachers play a pivotal role in scaffolding these skills, using both traditional pedagogical strategies and innovative learning materials to enhance comprehension, phonemic awareness, and engagement (Dilgard et al., 2022;

Muzammil & Saifullah, 2022). Despite the availability of instructional resources, kindergarten learners often face challenges in phonemic awareness—a critical early reading skill—highlighting the need for developmentally appropriate, engaging, and effective learning materials.

Foreign studies indicate that the design and acceptability of learning resources directly affect learner outcomes. Kristanto et al. (2021) demonstrated the feasibility of a brain-based online learning model to address student learning gaps, while Ok et al. (2021) highlighted the effectiveness of video modeling and augmented reality applications in improving phonics skills among early learners. Aguilera-Hermida et al. (2021) emphasized the role of learner self-efficacy in engagement with emergency online learning, underscoring the importance of instructional design and usability. Similarly, systematic reviews by Dilgard et al. (2022) reveal that phonics-based instruction, supported by teacher knowledge and targeted interventions, significantly improves early reading outcomes.

Local studies corroborate these findings. Montales (2022) and Ditona & Rico (2021) emphasized that structured reading strategies improve phonemic awareness, comprehension, and fluency among early learners, while Boltron & Ramos (2021) demonstrated that approaches like the Marungko Method significantly enhance beginning reading literacy. Cabreros (2023) highlighted the effectiveness of supplementary learning materials in addressing gaps in learners' competencies, demonstrating that well-designed instructional resources can improve performance in foundational skills

Despite extensive research on reading strategies and phonics instruction, few studies focus on the development, acceptability, and effectiveness of targeted phonemic awareness learning resources for kindergarten learners in the Philippine context. Most studies emphasize higher-grade students, digital or video-based interventions, or generalized reading strategies, leaving a gap in localized, play-based, and developmentally appropriate materials for early childhood learners. This study addresses this gap by designing a phonemic awareness learning resource tailored for kindergarten pupils, evaluating its acceptability among teachers, and testing its effectiveness in improving learners' early literacy skills. By bridging this gap, the study contributes to both educational practice and research, providing evidence-based instructional materials that support foundational reading development.

2. Materials and methods

2.1 Research Design

Mixed method of research was used in this study. A descriptive developmental research design was employed to determine the level of acceptability of the developed developed phonemic awareness learning resource was determined using the researcher-made questionnaire-checklist with respect to objectives, content, learning activities, format and language used and usefulness. Meanwhile, experimental research design was utilized also to assess the effectiveness of the developed phonemic awareness learning resource for kindergarten learners utilizing a researcher-made pretest and posttest.

2.2 Research Setting

The study was conducted in selected public elementary schools in Pasig City during the School Year 2025-2026. These schools included Caniogan Elementary School, De Castro Elementary School, Manggahan Elementary School, Maybunga-Annex Elementary School, Maybunga-Main Elementary School, Napico Elementary School, and Rosario Elementary School..

2.3 Respondents

The teacher-respondents of the study were the 47 teachers who were considered experts in the field. They were described in terms of their age, sex, civil status, educational attainment, position title, length of service and in-service trainings attended, and they evaluated the level of acceptability of the material. Another group of respondents were the 30 kindergarten learners who were exposed to the developed phonemic awareness learning resource.

2.4 Research Instruments

The study assessed the acceptability and effectiveness of the developed phonemic awareness learning resource using researcher-made instruments. A questionnaire-checklist was employed to determine teachers' evaluation of the resource with respect to objectives, content, learning activities, format and language used, and usefulness, while Part I collected teacher-respondents' demographic profiles. Acceptability was interpreted using a five-point scale ranging from "Least Acceptable" to "Very Much Acceptable." Kindergarten learners' performance before and after exposure to the resource was measured using a 10-item teacher-made test on phonemic awareness, with scores classified as Frustration, Instructional, or Independent. The instruments were validated by experts, including the research adviser, statistician, master teacher, school head, and Dean of the Graduate Studies Program, and aligned with the table of specifications based on the new curriculum. Reliability of the test was established through a test-retest method conducted with 30 learners from San

Joaquin Elementary School, with revisions incorporated from expert feedback to ensure clarity, accuracy, and appropriateness

2.5 Data Collection

The researcher followed the Gantt Chart of Activities in the conduct of the study. This includes the formulation of the research problem up to the revision of the manuscript and submission of the final copy. After the validation of the instrument, permission to conduct the study was obtained from the concerned authorities. The questionnaire-checklist was administered to the respondents through the Google survey form considering the guidelines in the Data Privacy Act of 2012. Retrieved data were encoded and processed utilizing Statistical Package for Social Sciences (SPSS). Based from the interpreted data, summary of findings, conclusions and recommendations were formulated.

2.6 Data Analysis

The data collected in the study were analyzed using both qualitative and quantitative statistical methods. The development process of the phonemic awareness learning resource was described qualitatively. Teacher-respondents' profiles were analyzed using frequency, percentage, and rank distribution. Their evaluation of the resource's acceptability across objectives, content, learning activities, format, and usefulness was measured using weighted mean, while one-way analysis of variance (ANOVA) was employed to determine significant differences in acceptability based on teachers' demographic profiles. Kindergarten learners' reading performance before and after exposure to the resource was assessed using frequency, percentage, rank distribution, mean, and standard deviation. To determine whether the observed differences in learners' pretest and posttest scores were statistically significant, a dependent t-test was applied.

2.7 Ethical Considerations

The study ensured the protection of the rights and welfare of all respondents. Participation was voluntary, and respondents were informed about the purpose of the study. Confidentiality and anonymity of all information provided were strictly maintained, and data were used solely for research purposes. The researcher ensured that the respondents were treated with respect and that no harm, whether physical, emotional, or psychological, would result from their participation in the study..

3. Results and Discussion

3.1. Development of the Phonemic Awareness Learning Resource for Kindergarten Learners

The development of the phonemic awareness learning resource for kindergarten learners followed a systematic process to ensure its relevance, acceptability, and effectiveness in strengthening early literacy skills. The process began with identifying the specific needs of kindergarten pupils, evaluating their level of phonemic awareness, and assessing the limitations of traditional teaching strategies. This initial stage aimed to determine how an innovative and engaging learning resource could enhance young learners' ability to recognize, manipulate, and differentiate sounds in spoken words. Through the analysis of common challenges, such as limited exposure to sound-based activities and varying levels of auditory discrimination, the resource was designed to address these gaps through interactive, and developmentally appropriate learning experiences.

The selection and organization of activities were anchored on the Kindergarten Curriculum Guide and aligned with the language and literacy standards set by the Department of Education. Each lesson was designed to be multisensory and play-based, incorporating rhymes, songs, sound games, and visual cues to sustain attention and reinforce learning. The resource encourages active participation through activities that develop listening skills, sound recognition, and blending and segmenting abilities, key components of phonemic awareness. These elements help make abstract sound concepts more concrete, engaging, and enjoyable for young learners. To assess the acceptability of the developed learning resource, kindergarten teachers evaluated the material focusing on the different criteria such as objectives, content, learning activities, format and language used, and usefulness. Feedback from teachers guided the refinement of materials, ensuring alignment with instructional objectives and classroom experiences. Furthermore, the effectiveness of the learning resource was measured based on learners' improvement in phonemic awareness skills, participation during activities, and ability to connect sounds to words in reading readiness tasks as revealed in their pretest and posttest results. Necessary revisions were made to enhance the clarity, interactivity, and overall learning impact of the material. The developed phonemic awareness learning resource serves as a valuable instructional tool in enhancing early literacy instruction and creading foundational reading skills among kindergarten learners.

3.2. Profile of the Teacher-Respondents in Terms of Selected Variables

It is reflected in the table 1 that the distribution of the teacher-respondents shows that 40.4% are aged 30–39 years old, making them the largest age group, while only 6.4% are 50–59 years old, representing the least number of respondents. All respondents are female, which means that the teaching workforce in the kindergarten level is predominantly composed of women.

In terms of civil status, most of the teachers are married at 80.9%, while 19.1% are single. Regarding educational attainment, the highest proportion of respondents, 40.4%, have earned units in Doctorate Degree programs, while 34.0% have completed Master's Degree units, and 23.4% hold a Baccalaureate Degree. Only 2.1% have fully earned a Doctorate Degree.

As to position title, most of the respondents are Teacher I at 55.3%, followed by Teacher II at 23.4% and Teacher III at 21.3%. In terms of length of service, 44.7% of the teachers have been teaching for 5–9 years, followed by 29.8% who have served for 10–14 years, while only 2.1% have been in the service for 20 years or more.

Furthermore, when it comes to in-service trainings attended, most of teachers have participated in Division-level trainings at 42.6%, followed by School-level trainings at 36.2%. Fewer have attended international at 8.5%, district at 8.5%, national at 2.1%, and regional at 2.1% trainings.

Table 1: *Profile of the Teacher-Respondents in Terms of Selected Variables*

Profile	Frequency	Percent	Rank
Age			
20 – 29 years old	10	21.3	3
30 – 39 years old	19	40.4	1
40 – 49 years old	15	31.9	2
50 – 59 years old	3	6.4	4
Total	**47**	**100.0**	
Sex			
Female	47	100.0	1
Civil Status			
Single	9	19.1	2
Married	38	80.9	1
Total	**47**	**100.0**	
Educational Attainment			
Doctorate Degree	1	2.1	4
With Ed.D./Ph.D.	19	40.4	1
Master's Degree	-	-	-
Master's Degree Units	16	34.0	2
Baccalaureate Degree	11	23.4	3
Total	**47**	**100.0**	
Position Title			
Teacher III	10	21.3	3
Teacher II	11	23.4	2
Teacher I	26	55.3	1
Total	**47**	**100.0**	
Length of Service			
Below 5 years	8	17.0	3
5 -9 years	21	44.7	1
10 - 14 years	14	29.8	2
15-19 years	3	6.4	4
20 years and more	1	2.1	5
Total	**47**	**100.0**	
In-service Trainings Attended			
International Level	4	8.5	3.5
National Level	1	2.1	5.5
Regional Level	1	2.1	5.5
Division Level	20	42.6	1
District Level	4	8.5	3.5
School Level	17	36.2	2
Total	**47**	**100.0**	

3.3. Level of Acceptability of the Developed Phonemic Awareness Learning Resource for Kindergarten Learners as Evaluated by the Teacher-Respondents with Respect to Objectives, Content, Learning Activities, Format and Language Used, and Usefulness

As shown in the table 2, the overall acceptability of the developed phonemic awareness learning resource for kindergarten learners obtained a composite mean of 4.48, interpreted as Much Acceptable. Among the five aspects, content ranked first with a weighted mean of 4.52, interpreted as Very Much Acceptable, indicating that teachers highly recognized

the relevance, organization, and appropriateness of the learning materials provided. This is followed by learning activities and objectives, which ranked second with a mean of 4.48, interpreted as Much Acceptable, showing that the activities effectively engage learners and support skill development. Meanwhile, last in rank are format and language used and usefulness, both obtaining a mean of 4.46, interpreted as Much Acceptable. These results show that the aspects are considered to be clear, functional, and effective by the teacher-respondents.

The findings reveal that the developed phonemic awareness learning resource was highly acceptable in all evaluated aspects. Teachers agreed that the material's objectives were clear and aligned with the curriculum, its content was relevant and engaging, and its learning activities were interactive and developmentally appropriate. The developed phonemic awareness learning resource for kindergarten learners also demonstrated a user-friendly format and language suitable for young learners, while its usefulness in guiding instruction and promoting literacy skills was affirmed. Moreover, the developed phonemic awareness learning resource met the expectations of teachers in terms of structure, design, and instructional quality.

The results imply that the developed phonemic awareness learning resource can be utilized as a supplementary instructional material in teaching early literacy to kindergarten learners. Its high level of acceptability in different aspects suggests that it is pedagogically sound, visually appealing, and responsive to the needs of both teachers and kindergarten learners. The material's clarity, engaging content, and purposeful activities support teachers in delivering phonemic instruction more efficiently. Moreover, the developed learning resource can enhance the early reading readiness and phonemic awareness among young learners.This is in relation to the study conducted by Valentino (2023) reported that technology-based instructional materials and self-learning kits were useful and effective in improving learners' academic performance across different subjects.

Table 2: *Level of Acceptability of the Developed Phonemic Awareness Learning Resource for Kindergarten Learners as Evaluated by the Teacher*

Aspect	Weighted Mean	Verbal Interpretation	Rank
Objectives	4.48	Much Acceptable	2.5
Content	4.52	Very Much Acceptable	1
Learning Activities	4.48	Much Acceptable	2.5
Format and Language Used	4.46	Much Acceptable	4.5
Usefulness	4.46	Much Acceptable	4.5
Composite Mean	**4.48**	**Much Acceptable**	

3.4. Significant Difference on the Level of Acceptability of the Developed Phonemic Awareness Learning Resource for Kindergarten Learners as Evaluated by the Teacher-Respondents with Respect to the Different Aspects in Terms of their Profile

The findings indicate that teachers' evaluations of the acceptability of the developed phonemic awareness learning resource did not significantly differ when grouped according to civil status, educational attainment, position title, length of service, and in-service trainings attended, as all computed p-values exceeded the 0.05 level of significance. This suggests that teachers, regardless of their professional background or demographic characteristics, consistently perceived the learning resource as acceptable in terms of objectives, content, learning activities, format and language used, and usefulness. The uniformity of responses across these variables reflects the material's strong alignment with established pedagogical standards and its appropriateness for kindergarten classroom implementation. These results imply that the learning resource meets the instructional needs of teachers from diverse professional contexts, reinforcing its potential for wider adoption across schools.However, a significant difference was observed in teachers' evaluation of the usefulness of the learning resource when grouped according to age, with a p-value of 0.047. This finding indicates that age serves as a determining factor in how teachers perceive the practical value of the developed material. Variations in teaching experience, familiarity with instructional innovations, and adaptability to new or play-based learning resources may explain these differences. This result supports the study of Aguilera-Hermida et al. (2021), which emphasized that educators' personal characteristics, particularly attitudes, self-efficacy, and openness to instructional technologies, influence their acceptance and effective use of learning materials. The implication is that while the resource is generally well-received, future enhancements should consider age-related preferences by providing flexible implementation strategies, instructional guides, or professional development opportunities to maximize its usefulness for teachers across different age groups.

Table 3: *Significant Difference on the Level of Acceptability of the Developed Phonemic Awareness Learning Resource for Kindergarten Learners as Evaluated by the Teacher-Respondents with Respect to the Different Aspects in Terms of their Profile*

Profile	F-value	p-value	Null Hypothesis	Verbal Interpretation
Age				
Objectives	1.916	0.141	Accepted	Not Significant
Content	2.134	0.110	Accepted	Not Significant
Learning Activities	2.142	0.109	Accepted	Not Significant
Format and Language Used	1.888	0.146	Accepted	Not Significant
Usefulness	2.885	0.047	Rejected	Significant
Civil Status				
Objectives	1.873	0.178	Accepted	Not Significant
Content	1.810	0.185	Accepted	Not Significant
Learning Activities	1.509	0.226	Accepted	Not Significant
Format and Language Used	1.955	0.169	Accepted	Not Significant
Usefulness	0.729	0.398	Accepted	Not Significant
Educational Attainment				
Objectives	0.992	0.406	Accepted	Not Significant
Content	0.827	0.486	Accepted	Not Significant
Learning Activities	0.811	0.495	Accepted	Not Significant
Format and Language Used	0.596	0.621	Accepted	Not Significant
Usefulness	0.613	0.610	Accepted	Not Significant
Position Title				
Objectives	0.218	0.805	Accepted	Not Significant
Content	0.165	0.848	Accepted	Not Significant
Learning Activities	0.417	0.662	Accepted	Not Significant
Format and Language Used	0.140	0.870	Accepted	Not Significant
Usefulness	0.084	0.919	Accepted	Not Significant
Length of Service				
Objectives	0.939	0.451	Accepted	Not Significant
Content	0.699	0.597	Accepted	Not Significant
Learning Activities	0.780	0.545	Accepted	Not Significant
Format and Language Used	0.756	0.560	Accepted	Not Significant
Usefulness	0.632	0.643	Accepted	Not Significant
In-service Training Attended				
Objectives	0.515	0.764	Accepted	Not Significant
Content	0.875	0.506	Accepted	Not Significant
Learning Activities	1.071	0.390	Accepted	Not Significant
Format and Language Used	0.827	0.538	Accepted	Not Significant
Usefulness	0.694	0.631	Accepted	Not Significant

3.5. Level of Reading Performance of the Kindergarten Learners Before and After Exposure to the Developed Phonemic Awareness Learning Resource

Table 4 presents the level of reading performance of kindergarten learners before and after exposure to the developed phonemic awareness learning resource as reflected in their pretest and posttest results. During the pretest, the majority of the learners (16 out of 30 or 53.3%) were classified at the Instructional level, indicating the need for teacher guidance in reading tasks. This was followed by 12 learners (40.0%) at the Frustration level, while only 2 learners (6.7%) demonstrated Independent-level reading performance. These results suggest that prior to the intervention, most learners had limited phonemic awareness and required substantial support to perform basic reading activities.In contrast, the posttest results revealed a substantial improvement in learners' reading performance after exposure to the developed learning resource. A large proportion of the learners (23 out of 30 or 76.7%) reached the Independent level, while only 6 learners (20.0%) remained at the Instructional level and 1 learner (3.3%) stayed at the Frustration level. The marked increase in the number of independent readers and the corresponding decrease in learners requiring instructional support or experiencing reading difficulty indicate that the phonemic awareness learning resource effectively enhanced learners' reading readiness and phonemic skills. These findings imply that the resource supported learners' progression from guided or struggling reading toward independent reading competence.The results further suggest that the developed phonemic awareness learning resource is an effective instructional tool for strengthening foundational literacy skills among kindergarten

learners. Its engaging and developmentally appropriate activities appear to facilitate sound recognition and early reading abilities, enabling learners to transition toward independent reading. This finding is consistent with the study of Ok et al. (2021), which reported significant improvements in students' reading skills following exposure to phonics-based and technology-supported instructional interventions. Overall, the integration of phonemic awareness learning resources into early childhood education programs may contribute to sustained improvements in literacy development and long-term academic success.

Table 4: *Level of Reading Performance of the Kindergarten Learners Before and After Exposure to the Developed Phonemic Awareness Learning Resource*

Score	Verbal Interpretation	Pretest			Posttest		
		f	%	R	f	%	R
8 - 10	Independent	2	6.7	3	23	76.7	1
5 - 7	Instructional	16	53.3	1	6	20.0	2
0 - 4	Frustration	12	40.0	2	1	3.3	3
	Total	**30**	**100.0**		**30**	**100.0**	

3.6. Significant Difference on the Level of Reading Performance of the Kindergarten Learners Before and After Exposure to the Developed Phonemic Awareness Learning Resource

As reflected in the table, there is a significant difference in the level of reading performance of the kindergarten learners before and after exposure to the developed phonemic awareness learning resource, as revealed in the pretest and posttest results. The kindergarten learners obtained a computed p-value of 0.000, which is lower than the 0.05 level of significance, thus rejecting the null hypothesis. The mean score increased from 5.00 in the pretest to 8.60 in the posttest, indicating an important improvement in the pupils' performance after utilizing the digital presentation.The findings reveal that the developed phonemic awareness learning resource significantly enhanced the reading performance of kindergarten learners. The increase in the mean score from the pretest to the posttest indicates that the use of engaging activities, and interactive tasks effectively supported the learners' development of early reading skills. The learning resource helped improve their ability to recognize, identify, and manipulate sounds in words, which are essential foundations of reading. This improvement in posttest results emphasizes the material's effectiveness as an instructional tool for strengthening learners' phonemic awareness and reading readiness.The results imply that the developed phonemic awareness learning resource is an efficient aid in improving the reading performance of kindergarten learners. The improvement in their scores suggests that integrating interactive and sound-based learning materials into early literacy instruction makes reading more enjoyable, meaningful, and effective. The developed phonemic awareness learning resource's combination of visual cues, auditory exercises, and hands-on activities enhances comprehension, engagement, and confidence among young learners. This further implies the importance of using innovative and developmentally appropriate materials to foster foundational reading skills in early childhood education.This is in support in the study conducted by Cabelin (2021) which supported that exposure to well-designed instructional materials improves learners' academic performance, reinforcing the present study's findings on the effectiveness of the developed resource.

Table 5:*Significant Difference on the Level of Reading Performance of the Kindergarten Learners Before and After Exposure to the Developed Phonemic Awareness Learning Resource*

Test	Mean	Standard Deviation	t-value	p-value	Ho	Verbal Interpretation
Pretest	5.00	2.05				
Posttest	8.60	1.77	13.357	0.000	Rejected	Significant

4. Conclusion & Recommendations

The study concludes that teachers' civil status, educational attainment, position title, length of service, and in-service trainings do not significantly influence their evaluation of the acceptability of the developed phonemic awareness learning resource. However, age significantly affects teachers' assessment of the material's usefulness, suggesting generational differences in instructional preferences and familiarity with play-based or innovative teaching approaches. Overall, the learning resource was found to be acceptable across key dimensions, indicating its suitability for classroom use in kindergarten literacy instruction. Moreover, the reading performance of kindergarten learners significantly improved after exposure to the developed phonemic awareness learning resource, demonstrating its effectiveness in enhancing phonemic awareness and early reading skills. Based on these findings, it is recommended that the learning resource be piloted in other kindergarten settings and integrated into the literacy curriculum. Continuous teacher training, regular material revision, and further parallel studies are also encouraged to strengthen implementation, ensure sustainability, and support evidence-based improvements in early literacy education.

Compliance with ethical standards

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