JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

PHONICS RECOGNITION MASTERY AND THE EARLY LITERACY PROFICIENCY OF LEARNERS: FRAMEWORK FOR PHONICS INTERVENTION MATERIAL

Ghia E. Crizaldo-Ureta
Master of Arts in Education, Major in Educational Management
Graduate School
Tomas del Rosario College
City of Balanga, Bataan, Philippines
Email: ghia.ureta@deped.gov.ph

Research Adviser

Isagani B. De Leon, PhD
Professor
Graduate School
Tomas del Rosario College
City of Balanga, Bataan, Philippines
Email: gbdeleon1224@gmail.com

ABSTRACT

Difficulties in learning to read at an early age are commonly rooted in deficits in fundamental phonological awareness. This mixed-methods study determined how mastery of phonics recognition affects the early literacy proficiency of Kindergarten learners in the District of Mariveles, Bataan, during School Year 2025–2026, and used the findings as the basis for a phonics intervention framework. Quantitative data were drawn from the quarterly Progress Report Cards of 2,413 Kindergarten learners across 18 public elementary schools and were analyzed using frequency distributions and percentages, while qualitative data were gathered from Kindergarten teachers and analyzed using Braun and Clarke's six-phase thematic analysis. Learners' performance improved across the four quarters: those at the Beginning level in overall phonics recognition mastery decreased from 87.12% to 12.87%, while those at the Consistent level increased from 1.41% to 53.23%; in overall literacy proficiency, Beginning-level learners decreased from 72.99% to 9.32%, while Consistent-level learners reached 57.47%. Most learners demonstrated a developing-to-consistent level of mastery in segmenting words, letter recognition, grapheme–phoneme correspondence, and word reading, whereas several continued to struggle with advanced phonics encoding and phonetic spelling. Teachers identified the lack of preschool (daycare) experience, limited parental follow-up, socioeconomic and geographic barriers, hunger and nutritional concerns, large class sizes, short attention spans, and unidentified learning difficulties as contributing factors, and described play-based, multisensory, individualized, and structured instruction as their responses. Based on these findings, the "S.M.A.R.T. Phonics" Intervention Framework (Structured, Multisensory, Adaptive, Resource-conscious, Triadic) was proposed to address the identified reading problems and to facilitate school–home partnership so that sufficient phonics instruction can be delivered without barriers.

Keywords: *Phonological Awareness, Literacy Mastery, Kindergarten, Learners, Reading*

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

INTRODUCTION

Background of the Study

Reading is undoubtedly the cornerstone of academic studies and the basis for attaining knowledge. However, acquiring the skill of reading is among the most pervasive challenges in the first years of learning. Most kindergarten and first-grade students are barely literate. According to UNESCO and the World Bank (2020-2025), despite schools reopening after the pandemic, literacy rates have been steadily declining each year. Moreover, the percentage of kids entering classes with inadequate phonics literacy has risen since 2020 (Taylor & Francis, 2025).

Early childhood literacy stands as the most pressing educational policy concern at present. UNESCO (2023) reports that children who are not introduced to phonics-based education have extremely limited opportunities to acquire the necessary level of proficiency by the age of 10. On the other hand, the World Bank (2022) notes that basic reading literacy is a key indicator of learning poverty. Put another way, a child's inability to read is a sign of subsequent learning difficulties. Therefore, it is essential to apply evidence-based reading practices to ensure academic achievement. If this condition is not met, the literacy gap between successful and minimally literate learners will persist as a major policy-related challenge.

SEA-PLM (SEAMEO & UNICEF, 2024) highlights that a considerable proportion of children across Southeast Asia are unable to achieve adequate reading outcomes, underscoring the region's critical phonics-related learning challenge. Recent studies emphasize the effectiveness of the phonics-based approach to generalized learning-to-read practices (Solihin, 2021). Understanding literacy and the accompanying learning process highlights phonics-based practice as the most reliable precursor to achieving early-grade reading proficiency (Demchak & Solari, 2025). Thus, phonics literacy principles need to be implemented in the classroom to ensure adequate learning outcomes.

The Department of Education initiated the Every Child a Reader Program and reinforced the MATATAG Curriculum to ensure phonics literacy and eliminate illiteracy in terms of fundamental knowledge. Still, international reading assessments, including the PISA and SEA-PLM, indicate that local literacy levels are below the international benchmark (SEAMEO & UNICEF, 2024).

The lack of phonics competency leads to insufficient learning opportunities, especially when transitioning from a phonics-based home language, which limits learning in another dialect (Taylor & Francis, 2025). In contrast, general objectives related to phonics literacy neglect the particularities of young learners' experiences with literacy. Thus, instead of applying scientific evidence on early-grade reading literacy, local educators rely on generalized recommendations regarding elementary reading proficiency (Solihin, 2021). Therefore, it is reasonable to design a domestic phonics learning framework that addresses the specific needs of young Filipino learners and helps bridge the literacy gap.

The year-end literacy assessment conducted among Grade 1 students in the Mariveles District revealed significant concerns about early literacy attainment. The obtained results demonstrate that only 45.62% of learners were readers, while 24.06% were transitional readers (DepEd, 2025). In turn, 13.41% of Grade 1 students were developing readers, which implies that they needed external support to become readers (DepEd, 2025). This finding can be used to improve the district's phonics literacy program. In addition, local partners can benefit from this study's results and apply the revealed insights to address the same issue in their practice.

Indeed, this research was conducted to emphasize the significance of developing early-grade literacy in a specific region, which corresponds with the worldwide tendency identified by the World Bank (2022). In particular, the transition from a developing reader to a reader requires adequate decoding skills to prevent illiteracy. Indeed, transitions between the early stages of education are frequently associated with students' inadequate expectations and preparation (Buckingham, 2023). Young learners are suddenly introduced to reading, which overwhelms them and prevents active participation in the learning process. Without foundational phonics literacy, children are exposed to complex concepts and experiences, leaving them confused and robbed of agency. Without foundational

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

phonics literacy, students are not encouraged to acquire new information, develop a growth mindset, and engage in active learning. Instead, they are prone to view the new domain as meaningless and ineffective, thus abandoning the process prematurely (Duke & Cartwright, 2021). As a result, they become illiterate, which aggravates the development of lifelong literacy (Duke & Cartwright, 2021). Thus, it is essential to integrate evidence-based phonics literacy practices rather than generalized recommendations for improving literacy proficiency (Demchak & Solari, 2025).

Phonics recognition is not only a fundamental component of literacy but also an essential factor in academic success. This study aimed to bridge the gap between early literacy predictors and intervention by exploring the role of phonics recognition in kindergarten students' literacy development. In addition, it proposed a framework to standardize phonics intervention materials to improve literacy outcomes at the study site.

Theoretical and Conceptual Framework

The theoretical framework served as the foundation of the study, explaining the theories and concepts related to the research problem. It provided a guide in understanding the relationship between the variables and supported the interpretation of the study's findings.

Relevant Theories

The present study was conceptualized in line with Marie Clay's (1966) Emergent Literacy Theory, Linnea Ehri's (1995) Orthographic Mapping Theory, and Jeanne Chall's (1983) Stages of Reading Development Theory. These theories collectively provided a strong foundation for understanding how mastery of phonics recognition contributed to the development of early literacy proficiency among learners.

The first theory used in the study was Marie Clay's Emergent Literacy theory (1966). The key idea of this theory was that literacy is not acquired through formal instruction in reading but emerges before it, developing alongside the gradual acquisition of language by children. Children could learn pre-reading and pre-writing skills through oral language and exposure to print, books, and other forms of communication. Later on, they concluded that written symbols carried meaning just like spoken language.

The theory was relevant to the proposed study because phonics recognition proficiency was an integral component of emergent literacy development before acquiring reading proficiency. Acquiring phonemic awareness, recognizing sound-letter connections, and understanding letter-sound patterns helped students learn to decode words. As such, improving phonics proficiency was essential for supporting the development of young readers' literacy skills and preparing them for advanced levels of reading.

Secondly, the Orthographic Mapping Theory, proposed by Linnea Ehri (1995), was relevant to the current study. The theory explained how learners store written language representations in long-term memory for instant recognition. Ehri's theory posited that word recognition became automatic when learners consistently associated grapheme-phoneme relations and meaning in long-term memory. As such, learners automatically recognized words when they were exposed to consistent writing patterns, practiced decoding, and engaged in meaningful reading. Doing this allowed learners to develop a functional lexical representation of high-frequency words for instant recognition and efficient reading.

Moreover, the theory explains that knowledge of phonics principles enabled readers to develop reading fluency. When participants could associate specific letters with their corresponding sounds, they decoded words correctly and became familiar with their spelling through frequent exposure. Therefore, every time learners encounter a familiar word, they are more likely to read it correctly, and, as a result, their reading becomes more fluent, efficient, and automatic.

Furthermore, Jeanne Chall's Stages of Reading Development Theory (1983) posited that reading development was a gradual process that unfolded through several stages, each with specific skills to master. The acquisition of reading skills usually begins in the first years of school when children learn phonics or the alphabet—the phonetic

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

approach dominates in the initial stages, where decoding words is the main goal. However, a more advanced approach to developing reading fluency requires analytical and syntactic skills, and those are needed when decoding becomes automatic. Therefore, students become better readers at higher stages, able to cope with complex tasks.

The theory described above was essential to the present analysis because it demonstrated the crucial role of phonics in the development of reading skills in young learners. In most cases, school-age children were at the earliest stage of reading development, having only recently learned to decode words. As such, the phonetic approach is the most appropriate one for them because it helped them progress to higher levels of reading proficiency. The latter was evident in the participants' reading fluency, an indicator of their progress towards greater proficiency and overall comprehension.

All three theories, Emergent Literacy Theory, Orthographic Mapping Theory, and Stages of Reading Development Theory, were very much connected to the present study as they together charted the whole process of learning to read, starting from the very basics to becoming a fluent reader. Emergent Literacy Theory focuses on how reading is a natural outcome of language and print experiences; Orthographic Mapping Theory reveals how, through phonics-based decoding, learners reach automatic word recognition; while Stages of Reading Development Theory presents a detailed study of how learners progress through the stages of reading development. These three theories, as a whole, offered a very clear and detailed model for understanding how mastery of phonics recognition improved early literacy skills in learners.

Conceptual Framework

The conceptual framework of the study was anchored on the Input–Process–Output (IPO) model, adapted to examine the operational dynamics between learner profiles, foundational phonics components, early literacy outcomes, and targeted structural remediation (Figure 1). The framework is theoretically grounded in the Active View of Reading (Duke & Cartwright, 2021) and Ehri's (2022) contemporary synthesis of orthographic mapping, both of which demonstrate that early childhood literacy proficiency is an integrated product of auditory phonological processing and stable visual–graphemic bonding in long-term memory.

By structuring the investigation into an IPO paradigm, the study mapped how learner profile data and cognitive sub-skills were processed through teacher-led diagnostics to yield an evidence-based instructional intervention tool.

Figure 1. Paradigm of the Study

INPUT	PROCESS	OUTPUT
Phonics Recognition Mastery • rhyming • blending • syllables • segmenting **Literacy Proficiency** • alphabet recognition • phonemic blending skills • grapheme-phoneme correspondence	Gathering of Data Survey Questionnaires Unstructured Interview Statistical Treatment of Data Analysis and Interpretation of Gathered Data	**PHONICS INTERVENTION MATERIAL**

The Input block encompassed the profile of the learners, Phonics Recognition Mastery (the independent variable), and Early Literacy Proficiency (the dependent variable). The learner profile was intended to isolate sex,

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

socioeconomic status, and parental educational attainment in order to investigate how external environmental factors create systemic variances in early reading readiness (Ready & Wright, 2021; Han & Johnston, 2023). Phonics Recognition Mastery was deconstructed into four core auditory and mechanical sub-skills—rhyming, blending, syllables, and segmenting—which measured the learner's phonological awareness, that is, the capacity to hear, manipulate, and break down the sound structure of spoken language (Cunningham et al., 2022; Schatschneider & Wagner, 2023). Early Literacy Proficiency, in turn, isolated alphabet recognition, phonemic blending, and grapheme–phoneme correspondence to assess mastery of the alphabetic principle, tracking how effectively a child establishes mental linkages between printed symbols and their phonemic values during initial reading acquisition (Davis Gonzales & Haynes, 2026; Ehri, 2022).

The theoretical link between these inputs posits that a child cannot achieve advanced orthographic mapping without first stabilizing auditory segmenting and syllable division. Deficits within these foundational domains directly cause early literacy bottlenecks during the transition from Kindergarten to primary education (Fletcher & Vaughn, 2022).

The Process block operationalized the methodology for measuring and analyzing these inputs. Data collection was handled by Kindergarten teacher-respondents, who completed a research-made diagnostic checklist based on continuous classroom observations, a method that draws on the diagnostic proximity of regular educators to maximize scoring validity (Alonzo & Kim, 2024). The rationale of the study was to examine baseline trends and patterns in phonics recognition mastery and early literacy proficiency in order to inform the design of a phonics intervention framework. For the quantitative component, a descriptive analysis of frequency distributions and percentages (relative frequencies) was conducted to determine learners' performance in phonics recognition mastery (segmenting: rhyming, blending, and syllables) and early literacy proficiency (alphabet recognition, phonemic blending, and grapheme–phoneme correspondence). These analyses provided baseline data on trends and patterns in early literacy competency and foundational skill deficits. A cross-tabulation analysis was likewise planned to examine the associations between phonics recognition mastery and early literacy proficiency, and to show how different levels of phonics recognition mastery relate to early literacy proficiency among participating learners; such information was intended to inform the phonics intervention plan by highlighting learner categories that may benefit from differentiated reading instruction.

For the qualitative component, thematic analysis was applied to explore themes related to the challenges and learning behaviors observed during phonics instruction in order to inform the development of the phonics intervention material. Following Braun and Clarke's approach, six phases of analysis were undertaken: becoming immersed in the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Reflexive thematic analysis promoted reflective engagement with the insights elicited from the observations and interviews, and the hermeneutic approach enabled the identification of barriers to phonics instruction and the design of a phonics intervention resource grounded in the findings.

The Output block represented the final practical contribution of the study: a localized Framework for Phonics Intervention Material for Kindergarten. The framework translated the statistical findings and learner insights from the Process stage into an actionable instructional design tool. Where the data revealed distinct vulnerabilities in blending or syllable segmentation among specific learner groups, the framework introduced explicit scaffolding routines to remediate those areas (Reutzel, 2022; Vaughn & Fletcher, 2022). By structuring the material around the phonetic rules of a transparent first language (Filipino), the output aligns with the early childhood mandates of the Department of Education's MATATAG curriculum guidelines (Department of Education, Philippines, 2024) and provides public school educators with a localized, data-driven remedial system designed to eliminate foundational reading readiness gaps before learners enter Grade 1.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Review of Related Literature

Phonics Recognition Mastery

Rhyming. A child's ability to rhyme words opened numerous opportunities to develop phonological awareness and prepared them for reading. Children's development of rhyming abilities enabled them to identify similar ending sounds in words. The activities that involved rhyming also helped children learn about sounds and blend them in words, enabling them to decode words, develop print awareness, and maintain reading fluency. Children could identify similar and dissimilar sounds and make predictions about the print.

Again, Hulme and Snowling (2023) emphasized the need to develop phonological awareness and knowledge of rhymes in the early years to help children achieve reading competence. The authors found that children who demonstrated phonological awareness and reading proficiency had strong decoding skills and applied the alphabetic principle appropriately. This is because children could enhance phonological awareness through rhyming activities, as these involved listening and discriminating between different sounds, including similar and dissimilar phonemes. Moreover, phonological awareness was essential to reading as it was involved in several other reading skills.

However, Sénéchal and LeFevre (2023) confirmed the family's contribution to home literacy, including the environment, books, poems, and nursery rhymes, in language and literacy development, including phonological awareness. Notably, the two researchers found that children exposed to books and other reading materials were more likely to achieve reading proficiency than those not exposed. Children learned print awareness from books and nursery rhymes, which further helped develop their phonological awareness. Therefore, there was a need to create or enhance the home literacy environment to help children achieve higher levels of phonological awareness and reading proficiency.

Similarly, Cherobon and Atoni (2022) revealed the impact of early reading competence on achieving literacy proficiency among primary school students. Firstly, the two researchers found that early reading competence, which comprised phonological awareness, would have helped students who lacked it acquire better reading skills than those who did not. Secondly, Cherobon and Atoni (2022) established that good rhyming competence, a subset of phonological awareness, should be used to decode spoken words and is essential for advancing students' reading proficiency.

The art of rhyming was a critical literacy competence that, if mastered by the children, would contribute to better phonological awareness, decoding, and overall reading proficiency. Students exposed to print materials at home and in class could acquire a broad range of knowledge for identifying various sound patterns, ultimately improving their decoding and early reading competence. A good command of rhyming was crucial; it promoted higher literacy proficiency and better reading performance among children.

Blending. One of the key phonics skills was blending sounds to form words. In addition, blending was an integrated process that bridged knowledge of individual sounds and decoding. Moreover, blending was an essential skill required by young learners to decode new words using their existing phonological knowledge.

Similarly, Mesmer and Griffith (2023) asserted that teachers needed to teach phonics explicitly and systematically to enable students to acquire decoding skills during emergent reading instruction. One such decoding skill was blending, whereby learners needed to blend sounds to read words. The authors noted that phonics needed to be used to enable students to apply the concept and decode new words, rather than allowing them to discover the words. In this case, learners would have mastered blending and attained sight word identification. Indeed, in the article, the authors asserted that blending was not an exercise meant to enhance phonemic awareness but decoding, which enabled students to acquire decoding skills and become better readers.

Potier-Watkins and Dehaene (2023) highlighted the importance of the online resources developed to help children master phonics, including blending, to improve their reading proficiency. The authors revealed that such an

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

intervention designed to enhance children's phonics literacy, including blending, had significant benefits for kindergarten and early primary education students. Such activities enabled the students to engage productively in various phonics exercises and develop decoding skills to become better readers.

Similarly, Zhang and Nation (2024) emphasized the importance of knowledge of lexical and phonics elements, including blending, for better progress in reading proficiency, especially for students learning English as a foreign language. The researchers argued that knowledge of blending enabled a reader to divide words into their correct segments, thereby representing their meaning. Interestingly, the phonics-based approach, including blending, helped the reader to connect both the sound and meaning of the word they were reading.

In essence, blending skills enabled learners to decode words, thereby promoting their overall reading proficiency and comprehension. Thus, providing learners with comprehensive phonics instruction alongside interactive literacy experiences supported their decoding and fluency skills. Consequently, phonics blending skills were of paramount importance in enabling children to become proficient readers and become successful in literacy.

Syllabication. Syllables were the distinctive elements or phonological units into which we could divide words while uttering them. One of the primary phonological awareness activities was learning to identify syllables, since it could significantly improve students' decoding, pronunciation, and overall fluency (reading and speaking). Being able to identify syllables helped pupils break down words into manageable chunks and better decode and read the word. Thus, the phonological awareness skill of syllable recognition has become critically essential in the learning and reading of young children because it has proved to be an excellent predictor of early reading growth and word identification. According to Alotaibi (2024), game-based learning strategies could develop children's cognitive abilities and motivate them to achieve in their lives. Similarly, interactive learning activities could facilitate a student's active participation in the lesson while promoting higher-level phonological awareness. The gamification technique could also be used to teach reading skills, such as decoding, to foster phonological awareness.

Similarly, Vazeux et al. (2020) explained that syllable-based training could also facilitate phonemic awareness. They stated that if an instructor used syllables to decode words during lessons rather than letters, students would achieve better phonics performance and improved fluency. The syllable training model helped learners identify the phonological features of words, thereby improving their phonics and fluency skills.

In addition, Acha et al. (2023) highlighted the key role of letter knowledge in decoding and word recognition. The authors stated that knowledge of the relationships between letters and the principles of decoding was essential to learning to read. In addition, the authors stated that students with extensive knowledge of syllables were likely to make significant progress in terms of decoding and comprehension.

Indeed, knowledge about syllables played a pivotal role in developing phonological awareness, decoding, and fluency. The pedagogical intervention enabled students to acquire literacy skills by providing opportunities to work with syllables and decode difficult words. Thus, the approaches described above for sustaining and extending syllable awareness ultimately led to improved reading performance and overall literacy among students.

Segmenting. It was a phonological awareness skill that helped break words down into smaller segments. This phonological awareness skill was vital for facilitating decoding because it helped one understand how words were segmented and which letters were mispronounced. With good segmentation skills, the learner found it easy to recognize a word's structure, which ultimately helped with both reading and understanding the text. Blubaugh (2023) pointed out that effective letter recognition strategies played a crucial role in aiding struggling learners to acquire early literacy skills. She emphasized that activities that enhanced sound awareness and letter identification also helped learners better understand word construction. This aspect was very much related to segmentation skills. In fact, using these strategies supported learners who would otherwise have had difficulty with their reading development. Similarly, Campbell (2023) suggested various instructional practices that could have been implemented to facilitate the acquisition of reading skills through exposure to letter names and sounds.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Specifically, the researcher proposed that learners could have greatly benefited from well-structured, frequent phonics practice to improve their overall word decoding.

Furthermore, it was stated that targeted exposure to phonics improved the learner's phonological awareness, a precondition for becoming a proficient reader. However, Adewale (2025) concluded that various phonics-based interventions had proved highly effective in helping children struggling with reading become better readers. It was also highlighted that phonics instruction was an integral component of any successful reading acquisition model, and that an explicit, systematic phonics program offered learners more opportunities to develop decoding skills. Moreover, it was stated that such programs were designed to provide learners with instructional opportunities to learn how to segment words into separate sounds, which in turn enabled them to become better readers.

Literacy Proficiency

Alphabet Recognition. It is an internal part of literacy. It implied that a child can identify letters, name them, and distinguish one from another. It sets the foundation for reading and writing. Moreover, it helped develop their phonemic awareness – the ability to link letters with corresponding sounds and recognize word patterns.

At the same time, Gehsmann and Mesmer (2023) argued that knowing the alphabetic principle, as well as understanding how it interacts with words on a page, was also vital for emergent readers. In other words, learning the alphabet helped a child to recognize that words were formed by particular letters and their combinations and that these combinations created specific sounds. This way, alphabet knowledge not only enabled students to identify patterns in print but also gave them confidence and promoted their literacy achievement.

Lonigan, Burgess, and Schatschneider (2023) explained that alphabet knowledge was one of the most critical early literacy skills necessary for students to become successful readers. They add that recognizing letters and their corresponding sounds allowed students to decode and identify words while reading. Moreover, strong alphabet knowledge enabled students to develop many other skills pertinent to reading.

Alphabet recognition also played a critical role in language and literacy acquisition in the multilingual learning environment. For example, Kim and Park (2023) pointed out that familiarity with letters and print concepts enabled learners to handle multiple languages better and, at the same time, enhanced overall literacy development. Recognizing letters and distinguishing them boosted phonological awareness, vocabulary growth, and overall reading in various linguistic settings.

All these cited sources, combined, emphasized alphabet recognition as a main literacy skill lying at the root of reading development. Being familiar with letters, grasping the alphabetic principle, and learning decoding skills prepared learners to read with comprehension. These ideas shed light on building literacy skills and showed the crucial role alphabet recognition played in supporting successful reading results for students.

Phonemic Blending Skills. One way learners could come to identify and produce whole words from parts was through phonemic blending skills. This skill was an indispensable part of phonemic awareness and went a long way in laying the foundation for reading development in children. Through phonemic blending, learners could produce words by smoothly and accurately merging sounds in a phoneme-level sequence, enabling them to decode new words, recognize word patterns, and develop reading fluency. As their phonemic blending skills improved, learners would find it easier to read words automatically and understand them better.

Phonics instruction was one way to enhance phonemic awareness, thereby leading to vocabulary growth and improved reading, according to Hu and Park (2023). The authors pointed out that regular and well-planned phonics sessions offered learners a chance to get hands-on practice in blending sounds, which eventually helped them to relate their phonemic knowledge to the written word. This experience could greatly aid in the learner's ability to efficiently recognize words, which, in turn, leads to better reading performance even at the start of literacy development.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

While emphasizing the essential role of phonemic awareness and phonics instruction in helping learners overcome reading problems, Anku (2024) also noted that activities that helped learners blend sounds were especially important in a phonics-based reading program aimed at improving decoding and reading fluency. Helping readers master phonemic blending through structured interventions equipped them with tools to break words down and piece them back together, improving their grasp of written text.

Phonics instruction, as noted by Roque and Muldong (2026), was an effective way to give Grade 1 learners a good start in literacy development, especially those coming from non-English kindergarten programs. The authors stressed that repeated, regular phonics sessions were the primary means by which learners built basic reading skills, including the ability to blend phonemes. Such practice made the transition into formal reading very smooth and led to better reading accuracy and comprehension.

In literacy development, phonemic blending skills enabled learners to combine discrete sounds to produce whole words. This, in turn, was necessary for decoding and comprehension. Through the consistent use of phonics and other literacy activities, learners strengthened their sound-blending skills. Also, they became capable of reading fluently, recognizing words with better accuracy, and comprehending text more deeply.

Grapheme-Phoneme Correspondence. This referred to the mapping of letters of the alphabet to their respective speech sounds. This ability was central to phonics teaching and an indispensable tool for guiding learners in decoding text correctly. Knowledge of how individual letters and letter groups corresponded to sounds equipped readers to tackle new words, spell more accurately, and read with greater fluency. Truly grasping the concept of grapheme-phoneme correspondence was essential for acquiring robust literacy skills.

Ehri et al. (2023) stressed that systematic phonics instruction strongly promoted reading proficiency, especially through sound-symbol relationships. Their meta-study revealed that explicit teaching of grapheme-phoneme correspondences helped learners decode words more quickly, thereby enhancing reading comprehension and fluency. This underscored the significance of structured phonics methodology in early literacy education.

On the other hand, Bowers and Bowers (2024) noted that structured literacy and explicit phonics instruction were key components in the acquisition of foundational reading skills. They maintained that systematically and logically imparting grapheme-phoneme correspondences enabled learners to grasp the functioning of written language more deeply. Such a method equipped learners with precise decoding skills indispensable for fluent and meaningful reading.

In the same vein, Chen et al. (2022) found that well-prepared teachers' capacity to teach phonics instruction, notably grapheme-phoneme correspondence, was significantly improved through instructional guidance. They highlighted that their results showed that expert teachers taught the sound-symbol relationship most effectively and therefore aided students' reading progress more. This served as evidence of the need to prepare teachers to provide quality literacy instruction adequately.

Fundamental to learning to read, grapheme-phoneme correspondence facilitated the link between visual symbols and their associated sounds, resulting in both word recognition and comprehension going hand in hand. Phonics teaching, when delivered systematically and maintained regularly, became a powerful tool for readers to decode unfamiliar words more quickly. Establishing thorough knowledge of grapheme-phoneme correspondence was the precursor to speed, accuracy, and overall literacy achievement.

Challenges in Teaching Phonics

Instructional and Pedagogical Barriers. Teaching phonics effectively required a deep understanding of linguistic patterns and systematic instructional frameworks. Teachers frequently encountered serious obstacles due to insufficient pre-service preparation and a pronounced lack of ongoing practical training. This instructional deficit made it very difficult for educators to break away from traditional rote-memorization practices and

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

confidently guide students through complex code-breaking mechanics. When teachers lack confidence in modeling phonetic sounds, early literacy routines easily became inconsistent and fragmented.

Buckingham (2023) highlighted that many early childhood educators lacked a secure grasp of the specific linguistic concepts required for explicit phonics delivery. She noted that without systematic, high-quality professional development, teachers struggled to implement structured routines effectively in the classroom. This baseline instructional gap directly prevented a smooth transition from whole-language frameworks to explicit, code-focused instruction.

Similarly, Cabigao (2024) emphasized the difficulties experienced by primary-grade teachers in local public schools using mandated reading materials. He found that instructors frequently struggled to balance core sound-blending mechanics with ambiguous teaching guidelines and a lack of actual hands-on mentoring. These persistent gaps in pedagogical capacity led to highly uneven phonics instruction and undermined students' decoding mastery.

On the same note, Johnston and Al-Ghamdi (2025) noted that second-language educators faced unique pedagogical challenges when presenting unfamiliar phonetic structures to young learners. They observed that a persistent reliance on global word recognition often masks an instructor's underlying discomfort with systematic phonemic segmenting. This clear instructional limitation slowed word-recognition growth and hampered students' ability to read with independent fluency.

Instructional and pedagogical constraints remained a major hurdle that limited a teacher's efficacy in delivering systematic early literacy lessons. When educators were denied access to robust professional training and clear classroom toolkits, their confidence and instructional accuracy declined. Addressing these specific training gaps was an essential step to transforming phonics delivery and boosting overall student reading proficiency.

Learner Heterogeneity and Readiness. The wide variation in student reading readiness and foundational deficits created a challenging day-to-day environment for early childhood educators. Teachers are routinely forced to manage steep deficits in baseline phonological awareness, highly limited vocabulary knowledge, and short attention spans within a single classroom. This immense level of learner heterogeneity severely complicates the delivery of uniform phonics lessons, forcing educators to constantly adjust their pacing. Consequently, teachers experience an intense cognitive and logistical load as they try to accommodate both fast-paced and struggling readers.

Hulme and Snowling (2024) reiterated that incoming primary students frequently displayed severe underlying gaps in oral language processing skills before formal instruction began. They explained that educators faced significant friction when trying to introduce advanced letter-sound rules to learners who could not yet segment spoken words. This deep baseline disparity required substantial remedial time, which delayed the scheduled delivery of the standard reading curriculum.

Similarly, Almazan and Almeda (2025) focused on localized reading challenges in which early learners exhibited high frustration and low motivation during decoding tasks. Their findings showed that instructors were under significant strain from students who struggled with long-term retention of initial sounds and consistent grapheme recognition. These persistent learner-centered barriers necessitated specialized, highly focused attention that overextended teachers, who often found it impossible to provide.

Along the same lines, Zhang and Nation (2024) shed light on how specific patterns of native-language interference complicated the attainment of systematic phonics mastery in diverse learning settings. They pointed out that educators struggled to address recurring decoding errors when students could not accurately distinguish foreign speech sounds absent from their home language. This phonological gap demanded targeted auditory training exercises that standard literacy curriculum frameworks rarely prioritized/supplied.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Navigating extensive student learning gaps and phonetic discrepancies was an arduous task that heavily taxed the standard teaching routines of early literacy educators. Standardized phonics approaches rarely yielded immediate success when student cohorts presented highly unequal levels of reading readiness. Designing clear, adaptive intervention programs remained crucial to reducing the instructional burden on teachers and leveling the playing field for all learners.

Institutional and Environmental Limitations. Beyond immediate classroom interactions, structural constraints and home environments placed an extreme administrative burden on early reading teachers. Pervasive challenges such as oversized classes, limited physical teaching resources, and the absence of school libraries severely limited opportunities for individualized reading practice. Furthermore, the total absence of structural reinforcement at home completely disrupted the daily retention of letter-sound mechanics. Instructors were often left as the sole source of literacy exposure, which limited how quickly a class could master fundamental skills.

Dagada (2022) demonstrated that large class sizes and poor print environments severely constrained elementary-grade teachers working in resource-constrained public schools. The researcher argued that overcrowded spaces prevent teachers from offering the immediate, personalized feedback required during structural phonics blending tasks. Without basic tactile reading tools, maintaining an interactive and highly engaging literacy routine becomes a massive challenge for educators.

Similarly, Alshaboul (2023) highlighted the structural mismatch between prescribed national curriculum benchmarks and the lack of concrete phonics intervention kits provided to teachers. His research revealed that instructors regularly experienced professional burnout because they had to manually create their own teaching props and diagnostic worksheets from scratch. This ongoing resource deficit took away valuable hours that could otherwise have been used for real-time student remediation.

On the same note, Batanes and Ramos (2026) explored the negative impact of minimal parental involvement and low levels of home literacy activities on early sound recognition. Their study proved that teachers face tremendous difficulty when classroom phonics lessons are left entirely unpracticed at home due to broader family socioeconomic pressures. This lack of educational continuity forced educators to waste valuable instruction time constantly repeating basic rules instead of moving forward.

In addition, Porter (2025) noted that rigid institutional pacing calendars prevented early primary teachers from spending adequate time with slow-paced readers. The study found that educators felt intense systemic pressure to meet strict administrative deadlines, which forced them to push past essential phonics blocks before true mastery could occur. This institutional rush created a cumulative reading deficit that became increasingly complex and difficult for teachers to fix in later grades.

Systemic institutional shortfalls and weak environmental supports combined to create an overwhelming set of structural obstacles for early literacy teachers. When physical toolkits were scarce, and home support was absent, the entire responsibility of foundational learning fell directly on the school system. Providing teachers with flexible pacing and well-designed intervention resources was imperative to overcoming these systemic boundaries and securing student reading success.

Related Studies on Alphabet Recognition

Alphabet recognition was an integral part of early literacy development as it laid the groundwork for a range of reading skills, including decoding, word recognition, and understanding literature. It was a skill that allowed a learner to identify letters, connect them to their respective sounds, and use this understanding to read words. Learners who had proficient skills in alphabet recognition found it easier to navigate from distinguishing letters to reading words and comprehending text, thus making it a major indicator of reading fluency and understanding development in children.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

In their study, Acha, Rodríguez, and Perea (2023) found that students with better letter knowledge were able to decode unfamiliar words and identify writing symbols with higher accuracy. Their results indicated that alphabet recognition affects the speed of word processing and early reading success. These results show that well-developed letter recognition strengthens decoding, which is the most important aspect of reading comprehension for a learner.

Piasta and Wagner (2021) found that teaching letter knowledge in a planned, detailed way led to major improvements in early reading skills. Their meta-analysis found that learners who received a well-organized letter-training program were more proficient at recognizing letters, had a better grasp of sound-sign relationships, and exhibited greater reading readiness than those who did not receive such training. These findings support the idea that a well-structured and consistent program for teaching the alphabet is crucial for developing reading comprehension skills, as it first strengthens foundational skills.

Fahrurrozi (2022) found that early reading initiatives emphasizing letter recognition and decoding skills enable learners to read accurately and gain self-assurance. The research highlighted that learners who receive reading guidance in the early stages show better performance in foundational literacy. These findings support the idea that providing early, well-organized instruction in alphabet teaching is critical for reading fluency and the development of comprehension.

The research conducted by Acha et al., Piasta & Wagner, and Fahrurrozi is linked to this paper because, collectively, they concluded that alphabet recognition plays a very important role in decoding accuracy, word identification, and overall reading development. These outcomes suggest that not only is working on alphabet recognition a major factor in understanding a text, but it also needs to be an integral part of developing new reading programs for young learners.

Related Studies on Phonemic Blending Skills

Phonemic blending skills, which involve blending separate speech sounds to form words, are a key aspect of early literacy development and are closely interconnected with phonological and phonemic awareness more broadly. Moreover, according to research in educational and developmental psychology, these abilities are the primary predictors of both reading proficiency and overall academic success.

Rice et al. (2022) performed a comprehensive meta-analysis published in Reading Research Quarterly on phonemic awareness and its potential role in effective instruction. They combined data from several studies and sorted out the role of different components of phonemic awareness, including blending, in literacy development. This meta-analysis indicates that direct, regular instruction in phonemic abilities significantly improves students' outcomes and identifies which teaching methods yield the most substantial results. Such studies are key to understanding the framework of activities that help learners excel in blending, as they offer research-based support for planning pedagogy that mainly targets this skill.

Meanwhile, Nkurunziza (2024) studied the place of phonological awareness in the development of early reading and published the article in the European Journal of Linguistics. Phonological awareness is a broad concept that covers several sound-related skills. Phonemic blending is one of the top-tier and most essential components of it. This piece of writing highlights how these sound-handling skills develop, how they function alongside other language skills, and their role in learning to read. The main point is that blending skills indicate how ready a child is for reading. Still, they also, fundamentally, enable the learner to decode words, which is the central step in the transition from recognizing sounds to fluent reading.

Similarly, Sucena et al. (2023) researched early signs of reading success in first grade. Their article appeared in Frontiers in Psychology. The research recorded the development of various cognitive and linguistic skills among preschoolers to determine which best predicted later reading ability. Among the abilities that proved to be the strongest predictors were phonemic manipulation skills, particularly blending. Thus, the research results support the idea that mastering sound blending at an early age provides a solid foundation for future reading success. On

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

the other hand, it is possible to identify and provide support to learners who have difficulty blending early on, which can prevent serious reading problems later.

The research by Rice et al., Nkurunziza, and Sucena et al. all point to the fact that phonemic blending skills are deeply rooted in phonological awareness and a major force behind the development of reading at an early stage. These abilities continue to prove indispensable, whether from the perspective of instructional efficiency, language development, or predictive testing. Taking these findings to heart means that encouraging phonemic blending through specific, developmentally suitable exercises is a must for literacy acquisition. Also, early assessment of such skills greatly helps teachers identify and implement plans to strengthen all learners' literacy skills.

Related Studies on Grapheme–Phoneme Correspondence

Phonemic blending skills allow one to merge isolated speech sounds to form complete words. Such skills are integral to children's literacy development and are closely linked to other aspects of phonological and phonemic awareness. Findings from research in education and developmental psychology show that these abilities are important predictors of reading skills and academic success over time. Besides phonemic blending, grapheme-phoneme correspondence is also an essential element in children's acquisition of literacy. Roughly, this skill involves knowing different letters or letter sequences in written form and the corresponding speech sounds. It is generally accepted in the fields of literacy education and applied linguistics that this is the key skill that links phonological awareness to the ability to read independently.

Ehri (2020), drawing on his research on the phonological awareness of teachers and learners, describes the cognitive mechanisms through which letter-sound knowledge develops and systematically argues for phonics instruction based on scientific evidence. According to her, being aware of the relationships between letters and sounds helps learners form mental links between spellings and their corresponding sounds. These connections serve as a basis for decoding unfamiliar words and for automatically recognizing frequently seen words. The article emphasizes that this is best learned through direct, sequential instruction and that, without a firm understanding of these connections, learners will be significantly hindered in their ability to improve their reading skills. This research plays a major role in determining how literacy lessons should be organized, as it establishes that phonics instruction is the most reliable pathway to strong word-reading skills.

Moreover, McNeill, Gillon, and Gath (2023) investigated how early reading and spelling skills build on one another and published their results in Language, Speech, and Hearing Services in Schools. They show in their paper that the underlying basis of both reading and writing is the same system: the knowledge of which grapheme corresponds to which phoneme. When kids learn to read, they rely on these correspondences to turn printed words into spoken ones; while spelling, they use the very same knowledge to go from sounds to written words. Their review indicates that proficiency in one skill strongly fosters proficiency in the other, thereby reinforcing the idea that grapheme-phoneme knowledge is not merely a collection of separate rules but a cohesive framework that enables children to understand how written language operates. It further confirms that teaching these correspondences supports both reading and spelling outcomes concurrently.

In addition, Björgvinsdóttir (2025) investigated the acquisition of basic reading skills in the context of inclusive education, with a particular emphasis on assessment procedures and effective instructional practices, as recorded in the University of Iceland Repository. Findings from the study show that understanding grapheme-phoneme correspondence is a fundamental requirement for all learners, including those with diverse learning needs or difficulties. It stresses that clear, well-structured instructions, together with regular assessments of progress, are the best ways to ensure that each student can master these essential skills. The research also points out that visibly and explicitly presenting sound-symbol relationships helps alleviate learning differences in inclusive classrooms, thereby establishing this knowledge as a major factor in providing equitable and successful literacy instruction.

Taken together, the works of Ehri, McNeill et al., and Björgvinsdóttir are relevant to this research because they all show that grapheme-phoneme correspondence is the foundation of early literacy development. Regardless of whether the analysis concerns the psycholinguistics of word learning, the association between reading and

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

spelling, or inclusive educational approaches, letter-sound correspondence skills that are correct and fast are emerging as a must-have. Leveraging these understandings demonstrates that methodical, direct instruction in these relationships is indispensable for helping learners not only decode words and build fluency but also develop the broad literacy skills needed to succeed in school. Through assessment and instruction in these correspondences, teachers are empowered to create effective teaching programs that help all pupils become confident, skilled readers.

Related Studies on Rhyming

Rhyming, which is essentially the skill of hearing, making, and pairing words that share identical or closely similar ending sounds, is not only a strong indicator of an individual's phonological awareness but also a crucial element and milestone in early literacy development. It enables children to become aware of the sound structure of language, make their ears more sensitive to sound patterns, and develop auditory processing skills that will later facilitate reading and spelling. Several studies have found a positive correlation between rhyming skills and reading readiness, especially when rhyming is taught through enjoyable, multisensory techniques.

Paivio (2023), in his seminal research on Mental Representations: A Dual Coding Approach, published by OUP, provides a theoretical explanation for why humans process and retain information through two main channels: verbal and visual. If this concept is related to rhyming, the implication is that children who are first learning to recognize or compose rhymes simultaneously create powerful mental networks linking word sounds to meanings or visual images. Some outcome points show that rhyming practices are successful because they activate a dual coding system: combining exposure to sound patterns with verbal tags or mental visuals, which not only facilitates comprehension but also boosts memorization and, along with memory, makes learning more meaningful. This theory explains why rhymes can be used so effectively to develop phonological awareness, as they support this process by helping children better organize and memorize information.

In addition, Amico's (2022) doctoral dissertation from Caldwell University examined the effects of multisensory learning on preschoolers' reading readiness. Rhyming activities presented through multisensory methods, e.g., pairing sounds with movements, rhythm, visuals, or tactile materials, were shown in the study to have a significant positive impact on children's ability to detect and produce rhymes. According to Amico, young children/adolescents learn to a great extent when they use more than one sense at the same time. Besides, rhyming tasks are especially well-suited to this kind of work/learning since, during them, one naturally involves listening, speaking, and usually also moving (physically). Therefore, the study further supports the view that, in addition to developing phonological skills, multisensory rhyming practice increases motivation and willingness to participate in the activity, thereby making it a highly effective strategy for developing reading skills.

Fadeev and Milyakina (2021), in an article published in SHS Web of Conferences, further detailed the concept of multisensory learning in the context of early education, including its nature and advantages, as well as its relation to rhyming. They pinpoint rhyming as a fundamental activity in such environments, which, besides allowing children to learn the sound/articulation patterns through the different sensory modalities that include music, rhyme games, and interactive play, also serves as the basis of other types of language/speech learning, such as phonemes, phonology, speech production, speech perception, and listening. The researchers argue that multisensory approaches make it possible to present abstract sound concepts in a more tangible and approachable form, thus assisting even learners who may find traditional teaching methods difficult to grasp the structure of language. Their research confirms that incorporating rhyming into rich, sensory-based settings leads to stronger engagement and faster acquisition of phonological awareness skills.

Lee et al. (2023) described the development of a multisensory pedagogical model focused on early reading interventions that serves as the basis for their university's Dyslexia program. According to their research, rhyming is a crucial element in the intervention, as it gives children with reading difficulties an opportunity to become aware of sound similarities and differences without the use of written text or the pressure it may create. The model notes that if rhyming activities are adjusted to the individual's needs and delivered through visual, auditory, and kinesthetic means, they can provide a strong and supportive foundation for literacy development. The authors'

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

other paper showed that rhyming is not only a helpful tool for typical learners but also plays a very important role in inclusive classes, helping overcome difficulties related to phonological processing and contributing to fair learning outcomes for all students.

The comprehensive research and articles of Paivio, Amico, Fadeev, and Milyakina, as well as Lee et al., suggest that rhyming is not only a major skill on its own but also a good medium for building other phonological awareness skills. From Paivio's conceptualization of how sound patterns are represented in our minds to practical implementations in multisensory and inclusive settings, rhyming is always the lead character in early literacy development. With the help of these findings, teachers created effective, engaging, sensory-rich activities that help children become proficient in rhyming, enhance their sound processing, and establish a strong foundation for successful reading and spelling.

Related Studies on Blending

Blending is the process of combining individual sounds, or phonemes, to produce complete, recognizable words. The ability to blend is fundamental in early literacy development because it's the main way kids connect their knowledge of letter-sound correspondences to decoding and reading words fluently. It has been recognized as the basic skill underlying the reading of phonetically regular words, and its ultimate mastery is strongly associated with improved reading accuracy, fluency, and comprehension across different groups of learners.

As part of their systematic review, Dilgard, Hodges, and Coleman (2022) investigated the most recent studies on phonics instruction in kindergarten through third grade, with a particular focus on professional learning, instructional resources, and intervention intensity, and published their article in Reading Psychology. They point out in their analysis that blending is one of the main elements of phonics teaching and that teachers must not only possess profound content knowledge but also have access to well-structured, high-quality materials for blending to be effective. The paper stresses that students' ability to shift from recognizing individual sounds to reading whole words depends mainly on explicit, systematic instruction, which involves the teacher's clear modeling of blending and students' repeated practice. They also mentioned that the intensity and duration of instruction are important, and that for students who are struggling to acquire this skill, blending serves as an indicator of potentially larger issues in reading development.

Additionally, O'Brien, Seward, and Zhang (2022) examined bilingual beginning readers' learning of phonics skills, including blending, using multisensory interactive digital tools. They conducted a randomized controlled trial of an iPad-based phonics program that incorporated pictures as cues to help students associate letters with sounds and blend them into words. Their research, published in Education Sciences, found that students exposed to the digital tool showed significantly greater improvement in blending, decoding, and word reading. This study exemplified the great potential of multisensory, technology-based methods for teaching sound blending, an area that many bilingual learners find challenging due to differences between their first language and English. By activating the visual, auditory, and kinesthetic senses, these tool models help learners internalize abstract sound patterns, making them both tangible and memorable. Describing additional challenges, the authors recall blending difficulties involving incorrect or language-specific sound patterns, which require more deliberate effort and support.

Research by Patel et al. (2022) appeared in the Journal of Computer Assisted Learning, and it was geared toward finding out how well an intervention that is based on games can equip phonics skills, especially blending, transfer, in the case of English language learners in the first and second grades of their local schools in India. The intervention used game-like modalities to make the practice of blending activities more fun and easier to do. The study found that students exposed to the program demonstrated significant growth in their blending and decoding abilities and, more importantly, that their progress over time remained steady. The authors point out that game-based instruction is such an effective piece of the puzzle because it creates a low-anxiety situation in which learners can practice the necessary repetition of the word-blending task without fear or tension. The potential of this approach to learning is therefore particularly great for children acquiring English as a second language. In

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

addition, they show that blending is not only teachable but, through new, learner-friendly methods, can be significantly accelerated even when facilities are limited, as is the case in some situations.

Taken as a whole, the research by Dilgard et al., O'Brien et al., and Patel et al. verifies that blending is a basic, learnable skill central to early reading achievement. Through the different modes of instructional design viewpoints, multisensory technology, or game-based learning, research stands firm in telling that explicit, engaging, and well-structured practice is what gets students to the point of mastery. Using these findings, teachers can design instruction that combines systematic teaching with effective tools and activities, ensuring that all students, including bilingual and at-risk learners, develop the blending ability necessary to become confident, independent readers.

Related Studies on Syllables

Syllables, units of spoken language that include one vowel sound only (with or without other consonants), are the building blocks of words and a major part of phonological awareness. Understanding syllable identification, segmentation, and blending is a vital milestone in early literacy, as it equips children to break down long words into smaller parts, identify sound patterns, and prepare for advanced skills such as phonemic awareness, decoding, and spelling. Studies have shown that syllable-level skills can be highly beneficial for young learners, bilingual children, and kids who require guided reading development.

Riska (2024), in her research published in Jurnal Riset dan Inovasi Pembelajaran, explored the implementation of phonics to improve children's recognition of consonant sounds aged 5 to 6 years. Her results indicate that awareness of syllables is closely linked to learning letter sounds, as children initially learn to identify and manipulate sounds within larger, more perceptible units, such as syllables, before individual phonemes. Her research has shown that phonics teaching, when very well planned and conducted with a thorough emphasis on syllable-level operations, can help children realize the sound combinations that generate meaningful units, which, in turn, will facilitate their letter recognition and enable them to read simple words accurately. That confirms that syllable practice is an indispensable base in early literacy schemes for young learners.

Sari, Yudin, and Muhria (2024) examined the effectiveness of phonics combined with puzzle media in enhancing first reading skills, a paper published in Silampari Bisa. The team found that teaching syllable segmentation and blending using interactive, hands-on materials greatly improved students' word-reading ability and understanding of short texts. The researchers pointed out that puzzles reveal and concretize the word structure, empowering children to physically manipulate syllable parts and witness their combination to form a word. This multisensory approach is highly effective for novices, as it not only helps them succeed but also facilitates the internalization of the rules governing word structure. This research highlights that social syllable practices, combined with appealing resources, constitute a highly effective approach for fostering early reading skills.

Taken together, the research by Riska and Sari et al. indicates that awareness of syllables is an integral, multi-purpose element in the development of literacy skills. Regardless of the mode of learning systematic phonics, interactive media, digital tools, or inclusive interventions- syllable-level activities help children master language structure, ease sound awareness, and lead to good reading results among various learners. Using these findings, teachers can plan activities that begin with syllable recognition and manipulation, thereby laying a firm foundation for all children to progress towards fluent and accurate reading.

Related Studies on the Alphabetic Principle and Concept of Word in Text

The alphabetic principle—the understanding that letters and letter patterns systematically represent individual speech sounds (phonemes)—is the foundational insight that enables children to move from recognizing words as whole shapes to decoding them analytically. Closely linked is the concept of word in text (COW-T), the awareness that each spoken word corresponds to a distinct sequence of letters bounded by spaces, and that reading involves matching spoken words to printed sequences. Together, these two understandings mark the transition from emergent to beginning reading and are essential for accurate, independent word recognition.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Odegard, Ring, and Smith (2021) investigated the value of kinesthetic and tactile methods in phonics instruction and published their findings in the Journal of Learning Disabilities. Their research shows that when children use movement, touch, and physical manipulation to explore letters and sounds, they form stronger, more durable connections between graphemes and phonemes. This is especially beneficial for learners who struggle with reading or have learning difficulties, as multisensory experiences reinforce the alphabetic principle beyond what visual or auditory input alone can provide. The study confirms that engaging the body alongside the mind helps learners internalize how the letter–sound system works, making abstract rules more concrete and memorable.

Rice et al. (2022) conducted a comprehensive meta-analysis on phonemic awareness instruction, published in Reading Research Quarterly. Their synthesis of research highlights that phonemic awareness—the ability to hear, identify, and manipulate individual sounds in spoken words—is the necessary precursor to acquiring the alphabetic principle. They found that explicit instruction in phonemic awareness significantly improves children's ability to learn letter–sound correspondences, because it teaches them that speech is made up of discrete sounds that symbols can represent. The analysis also shows that the most effective instruction integrates sound work with letter knowledge, directly linking awareness of speech sounds to their written forms, thereby accelerating the development of both the alphabetic principle and early decoding skills.

Gehsmann and Mesmer (2023), writing in The Reading Teacher, explained that these two understandings are the defining milestones of the emergent literacy stage. They describe the alphabetic principle not just as knowing letter sounds, but as grasping the logic of the writing system: that letters symbolize sounds and can be used to read and spell words. The concept of word in text, meanwhile, is the insight that each spoken word has a distinct printed counterpart. They outline three developmental phases of COW-T, from random pointing to accurate voice-to-print matching, and emphasize that both insights are best developed through shared reading and interactive writing. These practices give children repeated opportunities to observe, practice, and apply letter–sound relationships while learning to identify word boundaries in continuous text.

The studies by Odegard, Ring, and Smith; Rice et al.; and Gehsmann and Mesmer are all connected to this study because they demonstrate that the alphabetic principle and the concept of word in text are not isolated skills but interconnected understandings that form the foundation of reading. Research confirms that they are best developed through explicit instruction in phonemic awareness, multisensory and engaging activities, and meaningful experiences with print—such as shared reading and writing—that allow children to see how letters, sounds, and words work together. Ensuring all learners acquire these insights early is critical for preventing reading difficulties and building the capacity for fluent, independent reading.

Related Studies on Alphabet Knowledge

Alphabet knowledge—the ability to recognize, name, and identify the shapes and sounds of both uppercase and lowercase letters—is one of the strongest and most reliable predictors of future reading success. It forms the essential foundation for understanding the alphabetic principle, as children must first distinguish and identify letters before they can connect them to speech sounds. Mastery of letter forms, names, and sounds is not a single skill but a developing set of abilities that evolves throughout the preschool and kindergarten years, and research shows that the quality, timing, and method of instruction directly impact how quickly and thoroughly children acquire this knowledge.

Suprapto, Suryanti, and Ling (2024) explored a common challenge in alphabet learning: visual recognition difficulties and direction confusion, such as mixing up letters that look alike or facing the wrong way (e.g., b/d, p/q). Their study highlights that young children often struggle with the spatial orientation of letters because their visual processing skills are still developing. The authors emphasize that instruction must explicitly address these visual similarities and differences, using strategies that draw attention to unique features and correct formation. They conclude that identifying and targeting these specific confusions early prevents persistent errors and helps children build accurate, automatic letter recognition.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Chen, Kacerek, and Ruiz (2023) investigated benchmarks for letter-naming growth and tested the effectiveness of an interactive learning app for teaching uppercase letters. Their research established clear developmental profiles, showing that while most children make steady progress, there is significant variation in how quickly they learn letter names. The study found that technology-based tools, which provide immediate feedback, repetition, and engaging visual support, are highly effective—often as effective as traditional instruction, and sometimes more so for children who need extra practice. The authors note that digital tools can be especially valuable for helping children reach established benchmarks, and that tracking growth profiles allows educators to identify those who are falling behind and need additional support.

Amelasasih and Yulyanto (2024) evaluated the well-known Jolly Phonics method when combined with letter-card media. Working with five-year-old children, they found that this multisensory approach—where children see, say, and manipulate letter cards while learning sounds—produced significantly better results than conventional teaching. The method connects letter shapes to sounds through movement and visual cues, making abstract symbols meaningful and memorable. Their findings confirm that structured, systematic programs paired with concrete, hands-on materials are highly effective for building alphabet knowledge, especially for young learners who learn best through active participation.

Piasta (2023) synthesized current research to clarify what is known—and what remains unclear—about how to teach letters effectively. She explains that alphabet knowledge includes not just naming letters, but also knowing their sounds and how to form them, and that these different components develop at different rates. She reviews evidence showing that instruction should be explicit, cover both uppercase and lowercase forms, and link letters to sounds from the start. Piasta also points out gaps in research, such as the best order to introduce letters and how much practice is needed, but concludes that early, high-quality alphabet instruction is non-negotiable, as it sets the stage for all later reading development.

Vinter et al. (2023) compared how preschool and kindergarten children learn uppercase versus lowercase letters. Their study revealed that uppercase letters are usually learned first because they are simpler in shape and more distinct, but that mastering lowercase letters— which are more varied and often visually similar—is the stronger predictor of reading readiness. They found that children benefit greatly when instruction explicitly compares the two forms, showing how each uppercase letter corresponds to its lowercase partner. The authors emphasize that both forms are essential and that teaching them in connection, rather than separately, helps children build a complete and flexible understanding of the alphabet system.

Collectively, these studies showed that alphabet knowledge is a complex, developing skill that requires careful, explicit, and multisensory instruction. Research confirms that effective teaching addresses visual confusion, uses engaging tools and materials, links names to sounds, and covers both uppercase and lowercase letters. Because alphabet knowledge is the foundation of the alphabetic principle and decoding, ensuring every child masters these skills early is the most important step toward preventing reading difficulties and building strong literacy foundations.

Further Studies on Phonemic Blending Skills

Phonemic blending skills refer to learners' ability to combine individual sounds, or phonemes, to form meaningful words. This skill is a key component of phonemic awareness and phonics instruction, serving as a bridge between sound recognition and word reading. It is essential in developing learners' decoding ability, word recognition, and reading fluency. Through phonemic blending, learners can process sounds more smoothly, which contributes to accurate reading and improved comprehension.

Visagas and Buensuceso (2025) found that the use of structured phonics strategies, such as Jolly Phonics, significantly improves learners' reading proficiency and motivation. Their findings showed that explicit phonics instruction enhances learners' ability to blend sounds and read words more accurately. These findings suggest that systematic phonics approaches are effective at strengthening phonemic blending skills, which are essential for reading fluency and the development of comprehension.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Similarly, Hechanova et al. (2023) concluded that play-based learning activities significantly improve learners' phonemic awareness, particularly in sound recognition and blending skills. The study emphasized that interactive and engaging learning experiences help learners develop stronger foundational reading skills. These findings suggest that playful, interactive phonics activities can enhance learners' ability to blend sounds, thereby improving early reading performance.

Likewise, Lopez (2020) highlighted the importance of understanding grapheme– phoneme relationships in developing early reading skills. The work emphasized that learners must be guided to connect written symbols to sounds to develop accurate decoding and blending skills. These findings imply that explicit instruction in sound–symbol relationships is necessary for strengthening phonemic blending and reading accuracy.

In addition, Savarinathan and Abdul Karim (2025) found that technology-assisted phonics instruction significantly improved learners' phonemic awareness and letter–sound correspondence. Their study showed that interactive digital tools enhance engagement and support effective blending of sounds. These findings imply that technology-enhanced phonics instruction can strengthen phonemic blending skills and improve learners' reading development.

The studies of Visagas and Buensuceso (2025), Hechanova et al. (2023), Lopez (2020), and Savarinathan and Abdul Karim (2025) collectively emphasized that phonemic blending is a crucial skill supported by structured phonics instruction, interactive learning strategies, and strong grapheme–phoneme understanding. These findings imply that developing phonemic blending skills is essential for improving learners' reading fluency and comprehension and should be an important component of reading enhancement programs for early-grade learners.

Further Studies on Grapheme–Phoneme Correspondence

Grapheme–phoneme correspondence refers to the relationship between written letters (graphemes) and their corresponding sounds (phonemes). It is a fundamental aspect of phonics instruction that enables learners to decode written words accurately by linking visual symbols to their spoken sounds. Mastery of this skill is essential in developing reading fluency, spelling accuracy, and reading comprehension, particularly among early-grade learners who are still building foundational literacy skills.

In a separate study, Fernández-Otoya, Raposo-Rivas, and Halabi-Echeverry (2022) found that integrating ICT-based tools into phonological awareness instruction enhances learners' engagement and supports the development of early literacy skills. Their review highlighted that digital interventions can effectively strengthen learners' ability to recognize and manipulate sound structures, including grapheme–phoneme connections. These findings imply that technology-supported instruction can enhance learners' understanding of sound–symbol relationships, thereby improving decoding and early reading skills.

Similarly, Herrera (2023) revealed that systematic phonics instruction significantly improves learners' reading skills, particularly in decoding and word recognition. The study emphasized that explicit teaching of sound–symbol relationships supports learners in developing reading accuracy and fluency. These findings imply that structured phonics instruction is essential for strengthening grapheme–phoneme correspondence and improving reading comprehension.

Likewise, Martin (2024) found that phonics-based interventions significantly improve learners' spelling and word recognition. The study highlighted that understanding sound–symbol patterns across languages enhances learners' orthographic awareness and reading accuracy. These findings imply that grapheme–phoneme instruction supports not only decoding but also spelling and broader literacy development.

In addition, Visagas and Buensuceso (2023) stated that Jolly Phonics significantly improves learners' reading proficiency and motivation by strengthening their ability to connect letters and sounds. The study emphasized that systematic phonics instruction enhances foundational reading competencies. These findings imply that structured phonics strategies effectively develop grapheme–phoneme awareness, leading to improved reading performance.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Furthermore, Dugan (2025) found that phonics-based instructional strategies are perceived as highly effective in supporting early literacy development. The study emphasized that consistent exposure to sound–symbol instruction improves learners' decoding skills and reading confidence. These findings imply that effective phonics instruction plays a crucial role in strengthening grapheme–phoneme correspondence and enhancing learners' reading comprehension.

The studies of Fernández-Otoya et al., Herrera, Martin, Visagas, and Buensuceso (2023), and Dugan (2025) collectively emphasize that grapheme–phoneme correspondence is a foundational literacy skill supported by phonics instruction, ICT integration, and structured reading interventions. These findings imply that strengthening sound–symbol relationships is essential for improving decoding ability and reading comprehension, and that it should be a key component of reading enhancement programs for early-grade learners.

Objectives of the Study

The general problem of the study was: How may phonics recognition mastery determine the early literacy proficiency of Kindergarten learners in the District of Mariveles during School Year 2025–2026, and serve as a framework for phonics intervention material? Specifically, the study sought to answer the following questions:

1. How may the phonics recognition mastery of the learners be described based on segmenting in terms of:
   1.1 rhyming;
   1.2 blending; and
   1.3 syllabication?

2. How may the literacy proficiency of the learners be assessed according to:
   2.1 alphabet recognition;
   2.2 phonemic blending skills; and
   2.3 grapheme-phoneme correspondence?

3. What challenges did the teachers face in helping Kindergarten learners acquire phonemic mastery?
4. What interventions did the teachers implement to bridge the literacy gap?
5. Based on the findings, what Phonics Intervention Materials may be developed?

Significance of the Study

The findings of this research were beneficial to the following:

Learners. The learners are the principal "beneficiaries" of this study. It was designed to detect phonics deficiencies at an early stage, thereby preventing the "Matthew effect" and enabling learners to confidently acquire the entire Grade 1 curriculum without early school dropout.

Teachers. The study benefited the teachers by providing a tool to diagnose the phonics needs of young learners. It indicated the nature of phonics deficiencies, e.g., inability to distinguish letter sounds from letter names. As such, the findings will help Grade 1 teachers anticipate their recipients' phonics levels and adjust their lesson plans accordingly. The study was an essential intervention for remedial actions, including the teachers' INSET on the Science of Reading.

Parents and Guardians. The parents used the study's findings to understand that social readiness for school did not entail phonics readiness. Specifically, they learned that being able to recite the English alphabet did not mean that a learner could identify letter sounds. Such insight helped them provide the necessary home support to enhance learners' Phonics Recognition Mastery.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

School Administrators. The administrators used the study's findings to determine the relevance of their current Kindergarten Reading Curriculum in the Mariveles District. Notably, the findings indicated phonics deficiencies exhibited by learners upon entering Grade 1. The information is vital for school managers, as it guides them in allocating resources, e.g., by focusing on phonics rather than general reading materials. Additionally, the administrators used the findings to justify intensified INSET on the Science of Reading for the teaching staff.

Community. The study benefited the community by providing a framework for interventions to achieve mastery of phonics recognition in the municipality. Such an initiative will help abate learning poverty and boost the human capital of the District of Mariveles. The findings offered empirical evidence that the community used in developing programs and strategies to support the learners with early reading competencies. Ultimately, the collaboration helped ensure that the residents became phonics masters, thus producing a highly skilled and knowledgeable labor force.

Future Researchers. This study contributed to the general body of knowledge on early literacy in the post-pandemic period. For instance, it set a baseline for Phonics Recognition Mastery in the local schools. Future researchers may use this statistical data to conduct a study with the instrument, which would establish whether these phonics interventions had a lasting effect on students' subsequent reading performance.

Scope and Delimitation of the Study

This study primarily focused on the Phonics Recognition Mastery of Kindergarten learners and their association with Early Literacy Proficiency within the District of Mariveles. Specifically, the research was confined to the 18 public schools within the division, focusing on the language environment present in the district. The study targeted the 58 Kindergarten teachers across all selected public schools as the general population. In addition, there were 2,413 Kindergarten students officially enrolled in the Division for the 2025-2026 School Year. By limiting the study's scope to learners in Kindergarten, the study aimed to obtain relevant information pertinent to early childhood phonics mastery.

For this research, only three (3) Phonics Recognition components were assessed, using the Science of Reading as the framework. The study focused mainly on evaluating the children's mastery of Letter Name Knowledge (alphabet), Letter-Sound Relationship (grapheme-phoneme decoding), and Initial Sound Identification (phonemic blending). As such, there was a need to use the Progress Report Card results of the assessed learners to identify their progress towards mastering the targeted phonics skills. By limiting the scope of the study to early learners' phonics mastery, this study excluded other essential factors contributing to higher education levels, such as critical thinking and creative writing proficiency.

Additionally, the study excluded other aspects of sound blending, including the phonological elements necessary for fluency in English and Filipino reading and writing.

The study used a mixed-methods research design to gather quantitative and qualitative data to support the study's problem statement. Initially, the research relied on quantitative data gathered from the phonics progress report cards of the selected kindergarten students to establish the current phonics mastery level in the selected division. On the other hand, qualitative data were generated from the information provided by the teachers involved in the study. Quantitative data provided a snapshot of kindergarten students' phonics recognition mastery; qualitative data offered insight into the problems affecting the targeted population and provided a verifiable solution.

It is noteworthy that the study limited its scope to considering kindergarten learners' phonics recognition mastery in relation to other individual factors, including parents' education levels, socio-economic status, and nutritional status. Instead, the study focused on the teachers' role in promoting early learners' phonics mastery within DepEd Mariveles. As such, it was deemed unnecessary to consider the students' home environment. For the quantitative aspect of the study, descriptive statistics were used to describe the phonics recognition mastery level of the kindergarten population in DepEd Mariveles. As such, frequency analysis was conducted to report the percentage and proportion of students who master phonics. The study also reported cross-tabulation results to demonstrate the association among the three (3) identified phonics recognition components.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

On the other hand, the qualitative data generated from the study were analyzed using the six-step thematic analysis procedure developed by Braun and Clarke, which guides researchers in generating thematic analysis from qualitative data. As such, the qualitative findings provided supplementary information that complements the quantitative results. As such, this study limited the scope of qualitative analysis to factors associated with kindergarten learners' phonics recognition proficiency within the institutional setting before developing the proposed research framework.

Based on the details presented above, the study aimed to develop a comprehensive proposal for a phonics intervention program for kindergarten learners, covering classroom materials, activities, and home practice.

Definition of Terms

The terms used in the study are defined conceptually and operationally below.

Alphabet Recognition. Klages et al., (2023) defined it as the lowest level of cognitive competence required to develop reading proficiency. Commonly, it is known as the recognition, naming, and discriminative ability for uppercase and lowercase letter forms that predict later reading acquisition. In the current study, it was defined as the participant's raw score on a timed test in which they verbalize the 52 randomized capital and lowercase letter cards flashed in front of their face.

Blending. It was the cognitive ability to blend speech sounds articulated one after another smoothly and sequentially to identify the intended word (Madelaine, 2023). Operationally, it pointed to the number of target words a learner can verbalize when the researcher presents each letter sound with one-second gaps between them (e.g., the learner hears /c/−/a/−/t/ and verbalizes cat).

Grapheme-Phoneme Correspondence. It is simply the alphabetic principle that explains the relationship between graphemes and phonemes (Buckingham & Wheldall, 2023). It was operationally defined as the participant's accuracy percentage in verbally producing the isolated phoneme or sound presented in the computerized screening test, which uses printed letters or spelling signs.

Phonemic Blending Skills. According to Hulme et al. (2020), it is the process of transforming a set of phonemes into a meaningful word. The operational definition was based on the number of multi-phonemic, unprintable words that each participant could correctly blend orally during an auditory screening assessment.

Phonics Recognition. Decoding proficiency enables a learner to use alphabetic code knowledge to decode, pronounce, and store new words in the mental lexicon (Duke & Cartwright, 2021). In the current investigation, it was operationally defined as the number of real and non-real CVC words that each participant could correctly read from a prepared word list.

Reading Proficiency. It is defined as a learner's reading competence that enables him to decode text with relative ease and to extract and synthesize information for effective use, as per the purpose for which the reading was initiated, as expounded by OECD (2023). The present study defined it by the level (Beginning, Developing, or Proficient) achieved on the Early Grade Reading Assessment, a tool used to assess reading proficiency.

Rhyming. It was the phonological awareness skill that enables a learner to recognize, verbalize, or identify words with similar ending sounds and speech patterns (Cunningham et al., 2022). In operation, it was defined by the participant's ability to correctly choose the two target words that rhyme from a three-word auditory set.

Segmenting. The phonological awareness skill of splitting words into separate speech sounds, a process known as phoneme segmentation (Moats, 2020). It was operationally defined as the number of separate sounds a participant could verbalize when the researcher presented an intact word (e.g., a learner articulates /sh/−/i/−/p/ when given the word ship).

Syllabication. This referred to the process of dividing spoken or written words into smaller, distinct units of speech sounds, each centered around a single vowel sound (Seidenberg, 2020). The operational definition was based on the participant's accuracy rate for segmenting multisyllabic words into their constituent syllables.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

METHODS

This section presents the research design, the population and respondents, the research instruments and their validation, the ethical considerations, the data-gathering procedure, and the statistical and analytical tools used in the study.

Research Design

The study used a mixed-methods research design, combining quantitative and qualitative paradigms, to examine how mastery of phonics recognition influenced the early literacy proficiency of Kindergarten learners in the District of Mariveles during the School Year 2025–2026, as a foundation for developing a phonics intervention framework. A mixed-methods approach was selected because it enabled a comprehensive investigation that addressed both statistical baselines and qualitative empirical realities surrounding early literacy instruction (Creswell & Creswell, 2023).

For the quantitative strand, a descriptive-correlational research design was employed to measure learners' literacy skills and evaluate relationships among variables without manipulating the instructional environment. The quantitative data were extracted from the Progress Report Card of the Kindergarten learners. Only three of the indicators were narrowed down to represent the Science of Reading, which comprised the Letter Name Knowledge (alphabet), Letter-Sound Knowledge (grapheme-phoneme), and Initial Sound ID (phonemic blending) (Duke & Cartwright, 2021; Ehri, 2022). These data directly assessed learners' phonics recognition mastery in terms of word segmentation— specifically, across rhyming, blending, and syllable counting—and evaluated early literacy proficiency with respect to alphabet recognition, phonemic blending, and grapheme-phoneme correspondence.

Complementing the quantitative strand, a descriptive qualitative research design was conducted to capture classroom realities, pedagogical challenges, and instructional modifications (Sandelowski, 2000). The participants in this qualitative phase were Kindergarten teachers from the District of Mariveles who taught learners who remained at the "Beginning" literacy proficiency level during the Fourth Quarter of the School Year 2025–2026. Six Kindergarten teachers participated in the interviews (see Appendix B). This strand gathered contextualized data on the specific challenges teachers face in facilitating phonemic mastery and documented the current interventions educators use to address literacy gaps.

Data treatment comprised different quantitative and qualitative statistical and analytical procedures. Descriptive statistical procedures, such as frequency distributions, percentages, and relative frequencies, and cross-tabulations, were used in the analysis of quantitative data to determine the number and percentages of literacy levels and to establish relationships among literacy components (Field, 2024). Qualitative data collected from teachers were analyzed using Braun and Clarke's (2021) six-step thematic analysis procedure to identify, code, and group themes related to challenges and interventions.

At the synthesis stage, findings from both strands were integrated to address the ultimate objective of formulating proposed Phonics Intervention Materials. The quantitative results determined the extent of specific phonics deficiencies and literacy competencies. The qualitative outcome revealed how the participants responded to the learning shortfalls (Creswell & Creswell, 2023; Guetterman & Fetters, 2021).

Combining the two research results helped develop relevant phonics materials.

Respondents and Sampling Procedure

The population of this study comprised 2,413 kindergarten learners across 18 schools in the District of Mariveles for the school year 2025-2026. The Progress Report Cards of the learners served as the primary focus of the investigation, as they were navigating the critical, foundational stages of early childhood literacy development, where mastery of phonics recognition directly dictates long-term reading trajectories. The study focused explicitly on these individuals to capture the localized variances in their baseline phonological capacities—specifically

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

across the dimensions of rhyming, blending, syllables, and segmenting—as well as their emergent print-mapping proficiencies.

To assess the learners' reading processes, the researchers analyzed the target population's phonics recognition and print-mapping skills. Phonological awareness was measured using segmenting skills, namely rhyming, blending, and syllabication. Specifically, the teachers conducted assessments four times a year, once every quarter throughout the academic year. To ensure that the data gathered would be sufficient for the study, the researchers selected the target population using the total population sampling strategy, which includes all potential participants. In this regard, it is important to note that total population sampling is a type of judgment or purposive sampling, which involves selecting target populations on a broad basis that share similar characteristics of interest (Babbie, 2021; Saunders et al., 2023). The researchers selected all learners for the study to ensure that the final results would fully represent their phonological awareness, including segmenting skills and print-mapping ability. In addition, there was no margin of error, as the target population was taken as a sample. Thus, the researchers were able to secure accurate and representative data for conducting the study.

For the selected learners, strict inclusion and exclusion parameters were maintained to safeguard data integrity and ethical compliance. Inclusion in the final analysis required active, verified enrollment in the designated Kindergarten classes during the academic year covered, the cognitive and functional capacity to participate in age-appropriate phonics assessment activities under teacher guidance, and explicit written consent from a parent or legal guardian. Conversely, the study strictly excluded any student who was not officially registered, who was transferred out during the quarter, or who had severe, documented developmental or cognitive challenges that precluded meaningful interaction with foundational literacy tasks. Furthermore, any learner whose parent or guardian chose to withhold or subsequently withdrew consent to participate was immediately excluded from the study, preserving the voluntary nature of the sample while accounting for the practical realities of the school year.

Table 1 presents the distribution of learners and Kindergarten teacher-respondents by school. As shown, the study covered 2,413 learners and 58 Kindergarten teachers across the 18 public elementary schools within the District of Mariveles.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Table 1. Population of the Study

School	Number of Learners	Number of Teacher-Respondents
Antonio G. Llamas Elementary School	508	10
Alasasin Elementary School	221	6
Alion Elementary School	65	2
Balon Elementary School	74	5
Baseco Elementary School	223	2
Batangas Elementary School	55	1
Bayview Elementary School	59	2
BEPZ Elementary School	70	2
Biaan Aeta Integrated School	26	1
Cabcaben Elementary School	276	5
Ipag Elementary School	131	4
Lucanin Elementary School	146	3
Marina Bay Elementary School	35	1
Mt. View Elementary School	119	3
Renato L. Cayetano Memorial School	60	2
Sisiman Elementary School	165	4
Sto Niño Biaan Elementary School	84	2
Townsite Elementary School	96	3
Total	**2,413**	**58**

The distribution indicates a wide coverage across the district, ensuring that the data gathered accurately represent the varied realities of public elementary schools. The proportional representation of respondents ensured that schools with larger populations contributed more to the dataset, while smaller schools remained adequately represented. This ensured that the study captured diverse levels of phonics recognition mastery and early literacy proficiency among Kindergarten learners in the District of Mariveles.

Research Instruments

The primary data for this investigation were collected from the Progress Report Data of learners from Quarters 1 to 4 of the school year 2025–2026, which served as the principal data-gathering tool for evaluating the early reading metrics of the selected learners. The quantitative data collected were systematically collated, verified for completeness, and manually tabulated into a centralized database. To ensure a highly rigorous academic presentation, the compiled scores were presented using appropriate statistical tables, paired with thematic textual interpretations and in-depth analytical discussions. For the qualitative part, structured and validated interview questions were utilized during the interviews with teachers. This presentation matrix explicitly segmented the scores across the mechanical dimensions of phonics recognition mastery— rhyming, blending, syllables, and segmenting—as well as the core indicators of early literacy proficiency. Using available data is appropriate for this design, as it provides standardized, quantifiable data that can be statistically analyzed to establish relationships among variables and provide an empirical baseline for developing the proposed phonics intervention material.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

The research instrument consisted of three (3) parts aligned with the study's objectives. Part I focused on phonics recognition mastery; Part II focused on learners' literacy proficiency; and Part III focused on the challenges and interventions implemented by teachers to address the learning gap.

The first part assessed learners' mastery of phonics recognition. This section included activities and assessment items covering the four dimensions of phonics recognition mastery: rhyming, blending, syllables, and segmenting. These components are considered essential phonological skills that contribute to the development of early reading abilities among young learners.

The second part assessed learners' early literacy proficiency. This section measured learners' performance in alphabet recognition, phonemic blending skills, and grapheme–phoneme correspondence. These literacy indicators were used to determine learners' early literacy proficiency and its relationship to their mastery of phonics recognition.

The third part focused on teachers' personal experiences, specifically the challenges encountered, the intervention programs and practices being implemented, and their suggested phonics intervention material. This knowledge, drawn from the interview, helped the researcher establish a relevant, aligned framework for the phonics intervention material to guide the education sector in addressing learning gaps.

Construction and Validation of the Instruments

To address the research objectives, the study used two distinct sets of instruments: standardized institutional records for the quantitative phase and a researcher-constructed, expert-validated interview guide for the qualitative phase.

For the quantitative strand of the study, the researcher did not develop new instruments to measure learners' academic capacities. Instead, the study relied entirely on secondary administrative data derived from standardized, nationally mandated assessment tools of the Department of Education (DepEd) (Vartanian, 2021). Data were extracted from the Progress Report Card results for Quarters I-IV under the Learning Competency: Language, Literacy, and Communication Development to assess developmental domains and early literacy proficiency. This instrument is standardized nationwide and issued by DepEd. It has already undergone rigorous institutional validation, pilot testing, and reliability calibration at the systemic level before its implementation. Consequently, further validation or reliability testing of these quantitative tools by the researcher was deemed unnecessary (Cohen et al., 2023).

To address the study's qualitative inquiries, the researcher developed a semi-structured interview guide for selected Kindergarten teachers. The construction of the interview guide followed a strict deductive alignment matrix to ensure all qualitative statements of the problem (SOP) requirements were met (Yeong et al., 2023). The first part of the guide focused on the pedagogical, cognitive, and logistical challenges teachers face in achieving fourth-quarter phonemic mastery among struggling learners. The second part prompted participants to detail past and current localized remedial strategies, materials, or instructional adjustments they deployed to bridge literacy gaps. The final part gathered direct teacher insights regarding the structural, visual, and content requirements they believed were necessary to make the proposed Phonics Intervention Materials highly effective and viable for future classroom implementation (Creswell & Creswell, 2023).

To ensure that the semi-structured interview guide was theoretically sound, clear, and capable of generating rich narrative data, it underwent rigorous content and face validation (Yadav, 2022). The validation protocol began with an expert panel review, in which the initial draft of the interview guide and a content validation rubric were submitted to three external evaluators, including an early childhood education expert, a language and reading specialist, and a university research methodologist (Abma-Schouten et al., 2023). This panel evaluated the interview questions for clarity, relevance to the SOP, suitability for the target participants, and freedom from leading or biased phrasing. Following this evaluation, the feedback and suggestions from the evaluators—such as simplifying complex pedagogical terminology to ensure a conversational flow and adding probing sub-

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

questions—were systematically integrated. The thesis adviser officially approved the final, polished version of the guide before deployment.

Ethical Considerations

This study adhered to strict ethical standards in conducting research involving Kindergarten learners. Before data collection, approval was secured from the concerned district and school authorities and the Schools Division Office of Bataan to ensure that the study was properly endorsed and authorized.

Informed consent was obtained from the teacher-respondents. The purpose, procedures, and benefits of the study were clearly explained to ensure that participation is voluntary and based on full understanding. The respondents were also assured that they could withdraw from the study at any time without penalty or negative consequences.

Confidentiality and anonymity of the respondents were strictly observed. No names or identifying information were included in the data analysis and reporting. All gathered data were used solely for academic purposes and were securely stored to prevent unauthorized access.

The study ensured that no harm would be inflicted on the learners during the research. Assessment activities were designed to be age-appropriate, non-stressful, and aligned with their cognitive level. Respect, dignity, and protection of the rights of all participants were upheld throughout the research process.

Data-Gathering Procedure

The data-gathering process involved three (3) main stages: preliminary preparation, data collection, and response validation.

Before the formal conduct of the study, the researcher secured a permit from the Schools Division Office (SDO) of Bataan through an endorsement from the Office of the Schools Division Superintendent. The researcher sent a formal request letter to the principals or school heads of the identified public elementary schools within the Mariveles District of Bataan, seeking permission to administer the validated research instrument among the selected teacher-respondents. Upon approval, the researcher coordinated with the school research coordinators or designated focal persons to facilitate the smooth administration of the survey questionnaire.

Upon obtaining the necessary permissions, the researcher personally distributed the questionnaires to the teacher-respondents. In cases where face-to-face administration was not feasible due to schedule constraints or institutional protocols, online distribution methods (e.g., Google Forms or DepEd-verified email submissions) were employed. The instructions and consent statements were clearly indicated in the questionnaire to ensure informed participation. Respondents were reminded that participation was voluntary.

The respondents were given five to seven working days to complete the questionnaire. After the retrieval period, the researcher collected the completed instruments and checked them for completeness. For online responses, the researcher downloaded and organized the data using spreadsheet software (e.g., Microsoft Excel or Google Sheets) and ensured accuracy and proper encoding. All responses were treated with strict confidentiality, and no identifying information was included in any part of the analysis or reporting.

To ensure the integrity and validity of the data collected, the researcher conducted initial screening and cleaning procedures. Incomplete or invalid responses were excluded from the dataset. After data screening, the validated data were encoded, tabulated, and statistically processed.

After data collection, all responses were systematically checked, organized, and recorded. Incomplete or unclear responses were verified, when necessary, with the assistance of teachers to ensure the accuracy and completeness of the data.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

After completing data collection and encoding, the researcher proceeded to the data analysis phase, guided by the research questions and hypotheses. The findings then served as the empirical basis for developing a phonics intervention material for Kindergarten learners in the District of Mariveles. The entire data gathering process strictly adheres to the ethical research standards of the Department of Education and the institutional research committee to which the researcher is affiliated.

Data Analysis

The data collected through assessment tools and qualitative instruments were organized, classified, and analyzed using appropriate quantitative and qualitative procedures to address the study's research objectives.

Descriptive statistical procedures were used to describe the learners' performance on segmenting skills (rhyming, blending, and syllables) and early literacy knowledge (alphabet recognition, phonemic blending, and grapheme-phoneme relationships). This involved calculating the frequency distribution and percentage relative frequency to describe each participant's performance on phonics recognition mastery and early literacy competency. The frequency distribution analysis provides a baseline understanding of the data and an indication of the extent to which learners demonstrated certain skills or knowledge (Donegan & Wanzek, 2021). Similarly, calculating percentage relative frequency helps identify the proportion of participants who demonstrated particular levels of phonics recognition mastery and early literacy competency (Campilla & Cariño, 2024). Additionally, a cross-tabulation analysis was conducted to examine the relationship between participants' phonics recognition mastery and early literacy competency. Performing cross-tabulation analysis helps examine contextual sub-group patterns to establish how phonics recognition mastery competency level predicts early literacy competency (Campilla & Cariño, 2024).

The qualitative data collected to develop a framework for phonics intervention materials were analyzed thematically using Braun and Clarke's six-phase framework (Braun & Clarke, 2021, 2022). The qualitative data generated from observations and interviews were thematically analyzed using the following phases: (1) becoming familiar with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the final report. Thematic analysis helps organize qualitative data to yield meaningful insights into the pedagogical issues addressed in the study (Braun & Clarke, 2022; Joy et al., 2023). As such, Braun and Clarke's thematic analysis procedure was used to develop a conceptual understanding of the pedagogical issues and practical implications addressed in the study.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

RESULTS AND DISCUSSION

This section presents, analyzes, and interprets the data relevant to the study of phonics recognition mastery and literacy proficiency among learners. It also relates the results to the findings of other research on the subject and uses the findings as the basis for a framework for phonics intervention materials. The results are presented in the following order: (a) the phonics recognition mastery of the learners based on segmenting (rhyming, blending, and syllabication); (b) the literacy proficiency of the learners (alphabet recognition, phonemic blending, and grapheme–phoneme correspondence); (c) the challenges encountered by teachers; (d) the interventions implemented by teachers; and (e) the phonics intervention material developed from the findings.

Phonics Recognition Mastery of the Learners

This part describes the learners' mastery of phonics recognition based on segmenting, including rhyming, blending, and syllabication.

Table 2. Summary of Phonics Recognition Mastery Based on Segmenting: Rhyming, Blending, and Syllabication

Quarter	Beginning		Developing		Consistent	
	f	%	f	%	f	%
First	2,124	87.12	280	11.47	34	1.41
Second	1,160	47.58	1,170	47.98	94	3.84
Third	602	24.71	1,256	51.50	562	23.05
Fourth	314	12.87	802	32.88	1,298	53.23

Table 2 presents the overall summary of learners' phonics recognition mastery— incorporating rhyming, blending, and syllable counting—classified into Beginning, Developing, and Consistent levels across four quarters. In the first quarter, the vast majority of learners were at the Beginning level, with 2,124 (87.12%), while 280 (11.47%) were at the Developing level and only 34 (1.41%) at the Consistent level. By the second quarter, the number of learners at the Beginning level dropped substantially to 1,160 (47.58%), whereas those at the Developing level grew to 1,170 (47.98%), and Consistent learners slightly increased to 94 (3.84%). In the third quarter, the Beginning group further reduced to 602 (24.71%), while the Developing group peaked at 1,256 (51.50%), and the Consistent group expanded markedly to 562 (23.05%). By the fourth quarter, the Beginning level dropped to its lowest point at 314 (12.87%), the Developing level contracted to 802 (32.88%), and the Consistent group became the majority, comprising 1,298 learners (53.23%).

The data demonstrate a clear, positive quarterly progression in phonics recognition mastery, shifting from an initial focus on foundational deficits toward widespread competency. Over the four quarters, the proportion of learners at the Beginning level steadily declined by 74.25 percentage points, while the Consistent group expanded from a minimal 1.41% to more than half of the total cohort (53.23%). This upward trajectory directly reflects an enhancement in learners' overall reading ability, marking a shift from basic auditory perception to automaticity in segmenting and manipulating sound structures. As learners progress through mastering syllable counting, sound blending, and rhyming, their orthographic mapping and word-decoding efficiency improve. Consequently, this steady advancement bridges foundational phonological awareness with fluent word recognition and reading comprehension.

The systematic transition of learners toward consistent phonics mastery reinforces the understanding that phonological knowledge is an acquired competency developed through deliberate, structured exposure over time (Shaywitz & Shaywitz, 2020). Research indicates that explicit instruction in sound manipulation—such as identifying rhymes, counting syllables, and blending phonemes—accelerates the developmental shift from hesitant decoding to automatic word identification (Fricke & Bowyer-Crane, 2021). Furthermore, Al Otaiba et al.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

(2022) and Arevalo (2023) observe that mastering these sub-lexical components equips struggling readers with the cognitive scaffolding required to overcome reading barriers and narrow learning gaps. The significant accumulation of consistent learners by the final quarter aligns with findings by Wardana et al. (2022), who emphasize that targeted, multi-quarter phonics interventions progressively reduce reading difficulties and build long-term reading fluency. Thus, implementing structured phonics interventions remains essential to supporting identified learners and sustaining their reading growth across the academic year.

Table 3. Phonics Recognition Mastery Based on Segmenting in Terms of Rhyming

Quarter	Beginning				Developing				Consistent				Total
	Male		Female		Male		Female		Male		Female		
	f	%	f	%	f	%	f	%	f	%	f	%	
First	1,088	44.63	1,055	43.27	129	5.29	135	5.54	13	0.53	18	0.74	2,438
Second	639	26.36	521	21.49	551	22.73	630	25.99	36	1.49	47	1.94	2,424
Third	349	14.42	263	10.87	626	25.87	642	26.53	246	10.17	294	12.15	2,420
Fourth	187	7.75	139	5.76	399	16.54	391	16.20	635	26.32	662	27.43	2,413

Table 3 presents learners' phonics recognition mastery in rhyming, classified as Beginning, Developing, and Consistent across four quarters and by sex. The overall pattern shows a clear progression: most learners began at the Beginning level in the first quarter, but by the fourth quarter, the largest group had reached the Consistent level.

The table shows a positive quarterly progression in rhyming phonics recognition mastery. The proportion of learners at the Beginning level consistently decreased from the total number of 1088 (44.63%) male learners in the first quarter to 187 (7.75%) in the fourth quarter, and from 1055 (43.27%) female learners in the first quarter to 139 (5.76%), while those at the Developing and Consistent levels increased. By the fourth quarter, more than half of the learners were classified as Consistent in rhyming, consisting of 635 (26.32%) male learners and 662 (27.43%) female learners, or a total of 1,297 out of 2,413 learners, or approximately 53.75%.

The progressive acquisition of learners' progress in each quarter towards consistent rhyming suggests that phonological knowledge is an acquired skill that develops over time with exposure. The instructors observe that learners who show poor identification and recognition of sound patterns develop phonological awareness at a higher rate after being exposed to modeling. The early and consistent introduction of phonological awareness helps learners acquire good reading skills. In addition, Wardana et al. (2022) find that the intentional use of intervention strategies, such as providing information on rhyming and analyzing speech sounds, enables learners to overcome their reading disabilities and acquire phonics skills more quickly. Thus, there is a need to design a phonics intervention plan to support the identified learners and enable them to continue making progress throughout the year.

Table 4. Phonics Recognition Mastery Based on Segmenting in Terms of Blending

Quarter	Beginning				Developing				Consistent				Total
	Male		Female		Male		Female		Male		Female		
	f	%	f	%	f	%	f	%	f	%	f	%	
First	1,070	43.89	1,032	42.33	142	5.82	155	6.36	18	0.74	21	0.86	2,438
Second	629	25.95	520	21.45	553	22.81	624	25.74	44	1.82	54	2.23	2,424
Third	343	14.17	227	9.38	608	25.12	657	27.15	270	11.16	315	13.02	2,420
Fourth	180	7.46	113	4.68	403	16.70	414	17.16	638	26.44	665	27.56	2,413

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Table 4 presents learners' phonics recognition mastery in blending, classified as Beginning, Developing, and Consistent across four quarters and by sex. The overall pattern shows a clear progression: most learners began at the Beginning level in the first quarter, but by the fourth quarter, the largest group had reached the Consistent level.

The table demonstrates a positive quarterly progression in phonics recognition mastery in blending. The proportion of learners at the Beginning level consistently decreased from the total number of 1070 (43.89%) male learners in the first quarter to 180 (7.46%) in the fourth quarter, and from 1032 (42.33%) female learners in the first quarter to 113 (4.68%), while those at the Developing and Consistent levels increased. By the fourth quarter, more than half of the learners were classified as Consistent in blending, consisting of 638 (26.44%) male learners and 665 (27.56%) female learners, or a total of 1,303 out of 2,413 learners, or approximately 54.00%.

The consistent quarterly improvement among learners in blending sounds suggests that phonological understanding is a progressive skill that requires nurturing through experience. In regular classes, teachers notice that learners initially have difficulty identifying sounds, but over time, they become more confident and competent in this area. The latter could be explained by the consistent introduction of phonological awareness through in-class modeling, along with various verbal and segmented activities, which allow learners to acquire new phonological knowledge in a structured manner. In this regard, Nkurunziza's (2024) study underscores the importance of phonological awareness in the initial stage of children's literacy development. According to Nkurunziza (2024), introducing a structured approach to studying phonological awareness enables children to build a solid foundation for advanced reading skills. At the same time, another study by Wardana et al. (2022) found that targeted interventions using segmented and verbal rhyming as core strategies could reduce reading disabilities and promote phonics literacy among learners. It is essential to introduce a phonics intervention plan for struggling readers to support their reading acquisition.

Table 5. Phonics Recognition Mastery Based on Segmenting in Terms of Syllabication

Quarter	Beginning				Developing				Consistent				Total
	Male		Female		Male		Female		Male		Female		
	f	%	f	%	f	%	f	%	f	%	f	%	
First	1,081	44.34	1,046	42.90	132	5.41	146	5.99	17	0.70	16	0.66	2,438
Second	645	26.61	526	21.70	536	22.11	615	25.37	45	1.86	57	2.35	2,424
Third	363	15.00	262	10.83	598	24.71	636	26.28	260	10.74	301	12.44	2,420
Fourth	193	8.00	129	5.35	401	16.62	397	16.45	628	26.03	665	27.56	2,413

Table 5 presents learners' phonics recognition mastery in syllables, classified as Beginning, Developing, and Consistent across four quarters and by sex. The overall pattern shows a clear progression: most learners began at the Beginning level in the first quarter, but by the fourth quarter, the largest group had reached the Consistent level.

The table demonstrates a positive quarterly progression in phonics recognition mastery in syllables. The proportion of learners at the Beginning level consistently decreased from the total number of 1081 (44.34%) male learners in the first quarter to 193 (8.00%) in the fourth quarter, and from 1046 (42.90%) female learners in the first quarter to 129 (5.35%), while those at the Developing and Consistent levels increased. By the fourth quarter, more than half of the learners were classified as Consistent in syllables: 628 (26.03%) male learners and 665 (27.56%) female learners, for a total of 1,293 out of 2,413 learners, or approximately 53.58%.

The consistent quarterly improvement towards the gradual division of syllables suggests that dividing words into syllable chunks can help young readers understand the phonological structure of utterances. In classroom practices, teachers often observe that children learn syllables more easily when they are introduced to the idea by clapping or tapping out the beats. Such motor activity promotes phonological awareness and increases learners'

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

confidence in their ability to successfully tackle the word-structure task. Indeed, Nkurunziza (2024) and Badillo (2025) demonstrate that instruction that explicitly targets phonological awareness at the syllable and individual sound levels provides predictive value for early reading instruction and literacy development. Therefore, it is reasonable to include such syllable practice in the suggested phonics-based teaching plan to increase the reading capabilities of the target group.

Literacy Proficiency of the Learners

This part describes the learners' literacy proficiency in terms of alphabet recognition, phonemic blending, and grapheme–phoneme correspondence.

Table 6. Summary of Literacy Proficiency of the Learners in Terms of Alphabet Recognition, Phonemic Blending, and Grapheme–Phoneme Correspondence

Quarter	Beginning		Developing		Consistent	
	f	%	f	%	f	%
First	1,780	72.99	266	10.90	44	1.82
Second	921	37.79	1,043	42.79	135	5.54
Third	518	21.24	1,034	42.39	626	25.68
Fourth	227	9.32	649	26.63	1,401	57.47

Table 6 presents a summary of learners' literacy proficiency, classified into Beginning, Developing, and Consistent levels across four quarters. In the first quarter, the vast majority of learners were at the Beginning level, with 1,780 (72.99%), while 266 (10.90%) were at the Developing level and only 44 (1.82%) reached the Consistent level. By the second quarter, the number of learners at the Beginning level dropped significantly to 921 (37.79%), whereas those at the Developing level rose to 1,043 (42.79%), and Consistent learners slightly increased to 135 (5.54%). In the third quarter, the Beginning group further reduced to 518 (21.24%), while the Developing group remained high at 1,034 (42.39%), and the Consistent group expanded noticeably to 626 (25.68%). By the fourth quarter, the Beginning level dropped to its lowest point at 227 (9.32%), the Developing level contracted to 649 (26.63%), and the Consistent group became the majority, comprising 1,401 learners (57.47%).

The table demonstrates a clear, positive quarterly progression in learners' literacy proficiency throughout the academic year. The proportion of learners at the Beginning level steadily declined from 72.99% in the first quarter to 9.32% in the fourth quarter, representing a drop of 63.67 percentage points in foundational literacy deficits. Concurrently, the Developing category served as a crucial transitional stage—peaking in the second and third quarters at 42.79% and 42.39%, respectively—before contracting as learners advanced to mastery. By the fourth quarter, more than half of the cohort (57.47%) reached the Consistent level. This upward trajectory directly reflects a marked improvement in learners' overall reading ability, signaling a transition from early difficulties with sound-symbol recognition toward automaticity in word decoding, reading fluency, and text comprehension.

The systematic progression of learners from initial difficulty to consistent literacy proficiency reinforces the understanding that reading proficiency is an acquired competency developed through sustained, structured instruction over time. Early instructional modeling allows learners who initially show poor word identification to build cognitive scaffolding and transition through developmental phases. Research supports this progressive model; Hoover and Tunmer (2021) and Duke and Cartwright (2021) demonstrate that word recognition and linguistic processes interlock dynamically over time to foster reading fluency and comprehension. Furthermore, studies by Reyes and Santos (2021) and Arevalo (2023) show that sustained literacy remediation significantly narrows learning gaps and shifts struggling readers into instructional and independent reading tiers. Additional findings by Cagsawa et al. (2024) confirm that explicit phonics instruction and systematic guided reading accelerate word-decoding efficiency and boost learner confidence. Consequently, maintaining a structured literacy

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

intervention plan remains critical to supporting identified learners and sustaining reading growth across the school year.

Alphabet Recognition

Table 7. Literacy Proficiency of the Learners in Terms of Alphabet Recognition: Identifying Uppercase Letters

Quarter	Beginning				Developing				Consistent				Total
	Male		Female		Male		Female		Male		Female		
	f	%	f	%	f	%	f	%	f	%	f	%	
First	1,036	42.49	1,000	41.02	164	6.73	174	7.14	30	1.23	34	1.39	2,438
Second	552	22.77	428	17.66	601	24.79	690	28.47	73	3.01	80	3.30	2,424
Third	276	11.40	188	7.77	615	25.41	618	25.54	330	13.64	393	16.24	2,420
Fourth	149	6.17	91	3.77	362	15.00	346	14.34	710	29.42	755	31.29	2,413

Table 7 presents learners' literacy proficiency in terms of alphabet recognition of uppercase letters, classified as Beginning, Developing, and Consistent across four quarters and by sex. The overall pattern shows a clear progression: most learners began at the Beginning level in the first quarter, but by the fourth quarter, the largest group had reached the Consistent level.

The table shows a positive quarterly progression in uppercase alphabet recognition. The proportion of learners at the Beginning level consistently decreased from the total number of 1036 (42.49%) male learners in the first quarter to 149 (6.17%) in the fourth quarter, and from 1000 (41.02%) female learners in the first quarter to 91 (3.77%), while those at the Developing and Consistent levels increased. By the fourth quarter, more than half of the learners were classified as Consistent in alphabet recognition of uppercase letters: 710 (29.42%) male learners and 755 (31.29%) female learners, for a total of 1,465 out of 2,413 learners (approximately 60.71%).

The tendency of learners to acquire recognition of uppercase letters in quarters suggests that becoming familiar with the appearance of the alphabet is not a one-time activity. Based on respondents' experiences, learners first recognize uppercase letters when learning to read. The reason is clear: they appear prominently all around them, having a more distinctive form than the lowercase counterparts. The researchers' observations align with the findings of Garcia and Reodica (2022) and Piasta (2023) on the proven effectiveness of explicit instruction in visual features for developing strong alphabet knowledge and early reading proficiency. By extrapolation, it would be reasonable to incorporate such strategies when building the foundation for phonics instruction based on visual recognition.

Table 8. Literacy Proficiency of the Learners in Terms of Alphabet Recognition: Identifying Lowercase Letters

Quarter	Beginning				Developing				Consistent				Total
	Male		Female		Male		Female		Male		Female		
	f	%	f	%	f	%	f	%	f	%	f	%	
First	1,036	42.49	1,004	41.18	164	6.73	170	6.97	30	1.23	34	1.39	2,438
Second	554	22.85	429	17.70	595	24.55	684	28.22	77	3.18	85	3.51	2,424
Third	276	11.40	192	7.93	596	24.63	602	24.88	349	14.42	405	16.74	2,420
Fourth	143	5.93	96	3.98	363	15.04	332	13.76	715	29.63	764	31.66	2,413

Table 8 presents learners' literacy proficiency in terms of alphabet recognition of lowercase letters, classified as Beginning, Developing, and Consistent across four quarters and by sex. The overall pattern shows a clear

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

progression: most learners began at the Beginning level in the first quarter, but by the fourth quarter, the largest group had reached the Consistent level.

The table demonstrates a positive quarterly progression in alphabet recognition of lowercase letters. The proportion of learners at the Beginning level consistently decreased from the total number of 1036 (42.49%) male learners in the first quarter to 143 (5.93%) in the fourth quarter, and from 1004 (41.18%) female learners in the first quarter to 96 (3.98%), while those at the Developing and Consistent levels increased. By the fourth quarter, more than half of the learners were classified as Consistent in alphabet recognition of lowercase letters: 715 (29.63%) male learners and 764 (31.66%) female learners, for a total of 1,479 out of 2,413 learners, or approximately 61.29%.

The gradual shift among learners towards developing a consistent perception of lowercase letters suggests that instruction in this domain should be intensive and sustained to address the intricacies of small letter shapes. In common practice, teachers have noticed that learners may struggle to distinguish among similar lowercase letters (e.g., b, d, p, q) but eventually overcome these difficulties through tracing activities and consistent visual exposure. Such a finding was corroborated by Piasta (2023), who found that explicit, feature-focused alphabetic instruction significantly improved young learners' recognition of challenging letter forms and overall reading proficiency. Hence, these discoveries can be used to justify the inclusion of structured lowercase discrimination exercises in the proposed phonics intervention material, as they support early learners' literacy development.

Table 9. Literacy Proficiency of the Learners in Terms of Alphabet Recognition: Matching Uppercase and Lowercase Letters

Quarter	Beginning				Developing				Consistent				Total
	Male		Female		Male		Female		Male		Female		
	f	%	f	%	f	%	f	%	f	%	f	%	
First	1,041	42.70	1,019	41.80	159	6.52	153	6.28	30	1.23	36	1.48	2,438
Second	557	22.98	445	18.36	600	24.75	675	27.85	69	2.85	78	3.22	2,424
Third	281	11.61	208	8.60	604	24.96	593	24.50	336	13.88	398	16.45	2,420
Fourth	149	6.17	124	5.14	351	14.55	309	12.81	721	29.88	759	31.45	2,413

Table 9 presents learners' literacy proficiency in alphabet recognition by matching uppercase and lowercase letters, classified as Beginning, Developing, and Consistent across four quarters and by sex. The overall pattern shows a clear progression: most learners began at the Beginning level in the first quarter, but by the fourth quarter, the largest group had reached the Consistent level.

The table shows a positive quarterly progression in alphabet recognition, as measured by matching uppercase and lowercase letters. The proportion of learners at the Beginning level consistently decreased from the total number of 1041 (42.70%) male learners in the first quarter to 149 (6.17%) in the fourth quarter, and from 1019 (41.80%) female learners in the first quarter to 124 (5.14%), while those at the Developing and Consistent levels increased. By the fourth quarter, more than half of the learners were classified as Consistent in alphabet recognition by matching uppercase and lowercase letters: 721 (29.88%) male learners and 759 (31.45%) female learners, for a total of 1,480 out of 2,413 learners, approximately 61.33%.

The steady quarterly progress towards mastery of uppercase-lowercase letter connections suggests that inter-case linking may be a skill that emerges when learners consistently make these associations. In classroom practice, teachers have noted that beginning readers tend to match similar letter cases effortlessly, for example, C-c or O-o. However, learners need tactile and visual prompting and engagement through pairing activities to associate dissimilar letter cases, for instance, A-a or G-g. Similar practice patterns were observed among learners in the analysis. Piasta (2023) and Park and Piasta (2023) explain that beginning readers use their knowledge of uppercase letters to decode lowercase counterparts and create connections between the two sets of characters. Therefore, the

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

idea of pairing uppercase and lowercase letters can be integrated into the proposed phonics intervention to enhance letter-identity skills.

Phonemic Blending Skills

Table 10. Literacy Proficiency of the Learners in Terms of Phonemic Blending Skills: Identifying Letter Sounds

Quarter	Beginning				Developing				Consistent				Total
	Male		Female		Male		Female		Male		Female		
	f	%	f	%	f	%	f	%	f	%	f	%	
First	1,064	43.64	1,022	41.92	145	5.95	160	6.56	22	0.90	25	1.03	2,438
Second	611	25.21	483	19.93	559	23.06	641	26.44	56	2.31	74	3.05	2,424
Third	310	12.81	198	8.18	613	25.33	636	26.28	298	12.31	365	15.08	2,420
Fourth	146	6.05	90	3.73	370	15.33	370	15.33	705	29.22	732	30.34	2,413

Table 10 presents learners' literacy proficiency in terms of phonemic blending skills by identifying letter sounds, classified as Beginning, Developing, and Consistent across four quarters and by sex. The overall pattern shows a clear progression: most learners began at the Beginning level in the first quarter, but by the fourth quarter, the largest group had reached the Consistent level.

The table demonstrates a positive quarterly progression in phonemic blending skills, as evidenced by the identification of letter sounds. The proportion of learners at the Beginning level consistently decreased from the total number of 1064 (43.64%) male learners in the first quarter to 146 (6.05%) in the fourth quarter, and from 1022 (41.92%) female learners in the first quarter to 90 (3.73%), while those at the Developing and Consistent levels increased. By the fourth quarter, more than half of the learners were classified as Consistent in phonemic blending skills by identifying letter sounds, consisting of 705 (29.22%) male learners and 732 (30.34%) female learners, or a total of 1,437 out of 2,413 learners, or approximately 59.55%.

The gradual development of proficiency in determining letter sounds, quarter by quarter, implies the need for initial literacy skills in grapheme-phoneme decoding as a basis for subsequent enhancement. In everyday practice, teachers have noticed that students who are just beginning to learn to read often have difficulty distinguishing the sounds corresponding to the letters in their names. However, if educators use articulation patterns, phoneme practice, and sensory prompts, they can achieve rapid progress in learners' decoding skills. Gehsmann and Mesmer (2023) and Piasta et al. (2021) demonstrated that direct instruction plays an essential role in young people's ability to understand the connection between letters and their phonemes and to master the phonetic composition of words. Therefore, the research findings reveal the need to implement a letter-sound decoding program to improve students' phonics skills and prevent reading disabilities.

Table 11. Literacy Proficiency of the Learners in Terms of Phonemic Blending Skills: Matching Letters and Their Corresponding Sounds

Quarter	Beginning				Developing				Consistent				Total
	Male		Female		Male		Female		Male		Female		
	f	%	f	%	f	%	f	%	f	%	f	%	
First	1,063	43.60	1,011	41.47	146	5.99	171	7.01	21	0.86	26	1.07	2,438
Second	608	25.08	489	20.17	558	23.02	631	26.03	58	2.39	80	3.30	2,424
Third	301	12.44	200	8.26	623	25.74	645	26.65	298	12.31	353	14.59	2,420
Fourth	142	5.88	83	3.44	368	15.25	371	15.38	711	29.47	738	30.58	2,413

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Table 11 presents learners' literacy proficiency in phonemic blending, matching letters to their corresponding sounds, classified as Beginning, Developing, and Consistent across four quarters and by sex. The overall pattern shows a clear progression: most learners began at the Beginning level in the first quarter, but by the fourth quarter, the largest group had reached the Consistent level.

The table shows a positive quarterly progression in phonemic blending skills, as evidenced by matching letters to their corresponding sounds. The proportion of learners at the Beginning level consistently decreased from the total number of 1063 (43.60%) male learners in the first quarter to 142 (5.88%) in the fourth quarter, and from 1011 (41.47%) female learners in the first quarter to 83 (3.44%), while those at the Developing and Consistent levels increased. By the fourth quarter, more than half of the learners were classified as Consistent in phonemic blending skills by matching letters and their corresponding sounds, consisting of 711 (29.47%) male learners and 738 (30.58%) female learners, or a total of 1,449 out of 2,413 learners, or approximately 60.05%.

The gradual development of proficiency in determining letter sounds, quarter by quarter, implies the need for initial literacy skills in grapheme-phoneme decoding as a basis for subsequent enhancement. In everyday practice, teachers have noticed that students who are just beginning to learn to read often have difficulty distinguishing the sounds corresponding to the letters in their names. However, if educators use articulation patterns, phoneme practice, and sensory prompts, they can achieve rapid progress in learners' decoding skills. Gehsmann and Mesmer (2023) and Piasta et al. (2021) demonstrated that direct instruction plays an essential role in young people's ability to understand the connection between letters and their phonemes and to master the phonetic composition of words. Therefore, the research findings reveal the need to implement a letter-sound decoding program to improve students' phonics skills and prevent reading disabilities.

Grapheme–Phoneme Correspondence

Table 12. Literacy Proficiency of the Learners in Terms of Grapheme–Phoneme Correspondence: Distinguishing Between Letters, Words, and Sentences

Quarter	Beginning				Developing				Consistent				Total
	Male		Female		Male		Female		Male		Female		
	f	%	f	%	f	%	f	%	f	%	f	%	
First	1,063	43.60	1,009	41.39	146	5.99	177	7.26	21	0.86	22	0.90	2,438
Second	633	26.11	498	20.54	542	22.36	635	26.20	51	2.10	65	2.68	2,424
Third	453	18.72	373	15.41	575	23.76	585	24.17	193	7.98	241	9.96	2,420
Fourth	176	7.29	134	5.55	408	16.91	388	16.08	637	26.40	670	27.77	2,413

Table 12 presents learners' literacy proficiency in terms of grapheme-phoneme correspondence, distinguishing among letters, words, and sentences, and classifying performance as Beginning, Developing, or Consistent across four quarters and by sex. The overall pattern shows a clear progression: most learners began at the Beginning level in the first quarter, but by the fourth quarter, the largest group had reached the Consistent level.

The table demonstrates a positive quarterly progression in grapheme-phoneme correspondence across letters, words, and sentences. The proportion of learners at the Beginning level consistently decreased from the total number of 1063 (43.60%) male learners in the first quarter to 176 (7.29%) in the fourth quarter, and from 1009 (41.39%) female learners in the first quarter to 134 (5.55%), while those at the Developing and Consistent levels increased. By the fourth quarter, more than half of the learners were classified as Consistent in grapheme-phoneme correspondence by distinguishing between letters, words, and sentences, consisting of 637 (26.40%) male learners and 670 (27.77%) female learners, or a total of 1,307 out of 2,413 learners, or approximately 54.17%.

The transition through quarters is progressive, entailing a gradual improvement in learners' ability to identify differences among letters, words, and sentences. From this perspective, the present study hypothesizes that learning to differentiate print components is a critical stage for emerging readers, as it allows them to identify the

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

target reading elements before engaging in advanced textual analysis. The phenomenon can be observed among children in day-to-day practices, as they tend to struggle to tell graphemes, words, and sentences apart before being introduced to the concept of tracking print while reading and learning to sort words and phrases. In other words, the evidence provided by the educators supports the findings of Piasta et al. (2021), suggesting the need for direct instruction to improve children's print discrimination and literacy outcomes. For this reason, the explicit print-structure identification activities suggested by the authors are recommended to be integrated into the phonics intervention plan to ensure students' capacity to acquire advanced print skills.

Table 13. Literacy Proficiency of the Learners in Terms of Grapheme–Phoneme Correspondence: Spelling Simple Words Phonetically

Quarter	Beginning				Developing				Consistent				Total
	Male		Female		Male		Female		Male		Female		
	f	%	f	%	f	%	f	%	f	%	f	%	
First	1,080	44.30	1,045	42.86	130	5.33	140	5.74	20	0.82	23	0.94	2,438
Second	640	26.40	502	20.71	540	22.28	643	26.53	46	1.90	53	2.19	2,424
Third	461	19.05	372	15.37	568	23.47	595	24.59	192	7.93	232	9.59	2,420
Fourth	185	7.67	122	5.06	455	18.86	460	19.06	581	24.08	610	25.28	2,413

Table 13 presents learners' literacy proficiency in grapheme-phoneme correspondence, as measured by spelling simple words phonetically, classified as Beginning, Developing, and Consistent across four quarters and by sex. The overall pattern shows a clear progression: most learners began at the Beginning level in the first quarter, but by the fourth quarter, the largest group had reached the Consistent level.

The table demonstrates a positive quarterly progression in grapheme-phoneme correspondence by spelling simple words phonetically. The proportion of learners at the Beginning level consistently decreased from the total number of 1080 (44.30%) male learners in the first quarter to 185 (7.67%) in the fourth quarter, and from 1045 (42.86%) female learners in the first quarter to 122 (5.06%), while those at the Developing and Consistent levels increased. By the fourth quarter, almost half of the learners were classified as Consistent in grapheme-phoneme correspondence by spelling simple words phonetically, consisting of 581 (24.08%) male learners and 610 (25.28%) female learners, or a total of 1,191 out of 2,413 learners, or approximately 49.36%.

The data on progressive quarterly changes in favor of phonetically encoding simple words suggest that encoding such words phonetically is an integrated literacy component. In fact, during the regular classroom observation, the researcher realized how children tend to use a particular letter combination to represent a notable beginning or ending sound before moving to complete spelling with the help of certain interventions. Such strategies include introducing Elkonin sound-spelling boxes and dictation. The findings corroborate those reported by Ouellette and Sénéchal (2021) and Rice et al. (2022), who found that direct instruction in phonetic spelling promotes emergent readers' phonemic awareness and decoding speed. For this reason, it would be rational to integrate the above-mentioned phonetic spelling and dictation interventions into the proposed phonics-based intervention plan to support early learners in developing the literacy component of spelling.

Challenges Encountered by Teachers in Achieving Phonemic Mastery

This part reveals the challenges that Kindergarten teachers encounter in achieving phonemic mastery among learners. Four major themes emerged from the teacher interviews.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Table 14. Summary of Major Themes and Sub-Thematic Codes (Challenges)

Major Theme	Thematic Codes
Theme 1: Bridges Unbuilt: The Silent Gap Between Classroom and Home	Lack of daycare experience; Limited parental support/follow-up; Parental illiteracy; Parent communication strategies; Home visitation; Sending instructional materials home
Theme 2: Walls of Want: When Poverty and Distance Close Doors	Socioeconomic/geographic barriers; Hunger/nutritional issues; Feeding programs; Large class size; Cost constraints
Theme 3: Fragile Focus: The Fleeting Attention of Young Minds	Short attention span; Learning disabilities/developmental delays
Theme 4: Learning Through Laughter: The Dance of Play and Sound	Play-based learning/games; Repetition of basics; Classroom routines; Play-based materials; Clay/hands-on activities

These four major themes provide a comprehensive framework for understanding the multifaceted challenges in phonemic mastery identified by Kindergarten teachers in the local context.

The thematic synthesis in Table 14 indicates that early phonics recognition is significantly influenced by social deprivation and home-school contradictions, which teachers address through multifaceted pedagogical techniques. In particular, classroom observers noted that poverty, a lack of nutritious food, and the absence of daycare preparation prevent students from focusing on standard reading and writing drills. To mitigate the resulting peril to phonics aptitude, educators provide feeding programs, home visits, and play-based learning experiences involving such tactile tools as clay, games, and routine reinforcement. Both the observations and their implications contribute to the general understanding that phonics mastery requires going beyond standard practice by introducing entertaining activities and compensating for the child's deprivation outside the school walls. These insights are sufficient to formulate the main argument for developing a phonics intervention resource that combines play-based activities with home-school strategies to maximize learners' reading capability.

This conclusion aligns with recent studies that corroborated the effectiveness of play-based phonics and the need to involve parents in the educational process. For example, Wardana et al. (2022) found that incorporating hands-on activities facilitates students' phonics acquisition by boosting their motivation to learn. Similarly, Garcia and Reodica (2022) demonstrated that parental involvement and home-based pedagogy help mitigate the effects of socioeconomic deprivation on a child's early phonics mastery. Additionally, Nkurunziza (2024) showed that classroom routines that engage multiple senses help students with attention disorders acquire phonics skills. Hence, these researchers' collective insights confirm the feasibility of developing a teaching resource that embraces the interactive nature of play-based phonics activities, ensuring that home and school factors complement each other in early phonics education.

Theme 1: Bridges Unbuilt: The Silent Gap Between Classroom and Home

The qualitative findings reveal a pronounced disconnect between home and school environments that significantly hinders phonemic mastery among Kindergarten learners. Teachers uniformly reported that most children enter school without prior daycare experience, with Participant 2 describing learners as arriving with "zero" awareness of letter sounds. This lack of early exposure was echoed by Participant 5, who noted that "wala pong daycare history yung mga bata" and that Kindergarten represents their first formal schooling experience. Participant 6 observed a clear distinction between children who attended daycare and those who did not, stating that "kaiba po talaga ang bata kapag nag-daycare" because they arrive with prior learning and socialization.

The absence of parental follow-up at home emerged as an equally critical barrier. Participant 1 explained that even when teachers provide printed worksheets, parents have "wala din time" for follow-up due to work commitments. Participant 3 emphasized that "walang follow-up sa bahay" and stressed the essential role of parental awareness in reinforcing school-based learning. A particularly stark finding came from Participant 4, who contrasted

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

indigenous Aeta families with more literate Tagalog families, noting that among the latter, “kahit papano mam nasusuportahan nilang magbasa.” In contrast, Aeta parents often cannot provide such support. In extreme cases, Participant 4 reported that some parents “hindi din marunong magbasa,” which left them unable to assist with phonics practice at home.

In response to these challenges, teachers described multiple intervention strategies to bridge the home-school gap. Participant 3 reported sending follow-up videos through group chats, especially when learners are absent or when parents cannot be reached at school. Participant 5 described conducting home visits and calling parents to discuss their children’s progress. Participant 2 emphasized that parent communication is something they actively work on (“ina-workout”), recognizing it as essential to learner success. These findings collectively illustrate that while teachers make considerable efforts to engage parents, structural constraints—including parental work schedules, geographic distance, and limited literacy—continue to impede effective home-school partnerships.

The strong home-school nexus and the inadequacy of early childhood education suggest that children’s mastery of phonemic awareness is limited when they lack opportunities for home reinforcement. During instruction, teachers notice that students with no daycare experience and inadequate home support enter kindergarten without foundational literacy skills. This requires them to use mobile phones to share videos and conduct home visits to teach children. This is consistent with the research of Garcia and Reodica (2022), which indicates that contextualized home print exposure and involvement increase toddlers’ reading competence. Similarly, Hemmerechts et al. (2020) and Nkurunziza (2024) agree that home-school distance causes phonics learning deficits. The latter study explains that early childhood learners from low socioeconomic backgrounds benefit from outreach programs that help narrow the gap. Therefore, the proposal to develop a phonics plan based on home literacy resources to promote early learning and complement parental inadequacy is justified.

Theme 2: Walls of Want: When Poverty and Distance Close Doors

The findings illuminate how socioeconomic disadvantage and structural constraints create formidable obstacles to phonemic instruction. Teachers described poverty and geographic isolation as direct impediments to learning readiness, with Participant 3 noting that parents working in economic zones have limited time to support their children’s education. Participant 4 provided particularly compelling evidence regarding indigenous Aeta learners, explaining that “mas mahirap turuan ang mga Aeta” because they “lumaki sa bundok” and face significant geographic barriers. This participant further revealed that absenteeism is severe among these learners, with some attending “minsan sa loob ng isang linggo, papasok isang beses,” making consistent phonics instruction nearly impossible.

Hunger emerged as a direct barrier to readiness to learn. Participant 4 poignantly stated, “laman yung tiyan, pasukan sila ng learnings,” indicating that children cannot engage cognitively when they are hungry. This same participant described how feeding programs serve as attendance incentives, noting that Aeta learners come to school because “alam nila pagpapasok sila mabubusog sila.” While this addresses immediate nutritional needs, it underscores the intersection of social welfare and educational access in these communities.

Large class sizes were identified as a structural barrier that prevents individualized attention. Participant 3 reported having 30 to 31 learners last year, stating “hindi ko po talaga kaya” and requesting division into multiple sections. Participant 6 described an even more extreme situation, reporting class sizes of 50 to 55 learners with “ako lang po yung teacher ng kinder sa school namin,” leaving no choice but to manage overcrowded classrooms alone.

Teachers also expressed concern about the cost of instructional materials. Participant 1 stated “kaya lang magastos” when discussing ideal materials. Participant 2 elaborated that materials are “matrabaho, magastos” and that they are “hindi naman tayo supported masyado ng mga sa MOOE,” forcing teachers to use “sariling bulsa” (personal funds) to purchase resources. These findings collectively demonstrate that phonemic mastery is constrained not only by learner and family factors but also by systemic issues, including poverty, class size, and under-resourcing.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Theme 3: Fragile Focus: The Fleeting Attention of Young Minds

The findings highlight inherent learner characteristics that complicate phonemic instruction, particularly short attention spans and suspected learning disabilities. Teachers consistently reported that Kindergarteners have extremely limited attention capacity. Participant 1 stated, "attention span, mam naman. Napaka-ikli. Parang mawawala pang mga five minutes. Wala na." Participant 5 observed that "yung attention span ng mga bata, mas maiksi po sa school" and that children are "mas active sila sa mga laro" than in literacy activities. Participant 6 identified attention-getting as their primary struggle, noting that "minutes lang kasi yung kanilang attention span" before they become distracted.

The presence of learners with suspected learning disabilities emerged as a significant concern. Participant 2 described children who have "may learning disability ba" and are "hirap na hirap kang, kumbaga na, ituro mo na si sounds. Parang hindi pa sila ready." This participant noted that, while such cases are not numerous ("hindi naman siya marami"), they involve learners who are "naiiwan" despite teachers' efforts. Participant 3 similarly described the challenge of gaining parental acceptance that their children "may have delayed development, may kahirapan sa pagkatuto."

A critical finding is the absence of formal diagnosis or special education support. When asked about SNED records, Participant 2 responded, "wala ako, ma'am, talaga sabihin mong record na talagang. Hindi siya diagnosed na yung talagang may papel." This participant noted that while there are no formal diagnoses, "may nakikita ka ng signs. May mga manifestation sila." These findings suggest that teachers are identifying learners who struggle significantly with phonemic acquisition but lack access to formal screening, diagnosis, or specialized support services. The implication is that phonics interventions must accommodate diverse developmental readiness levels without the benefit of structured special education resources.

The target audience's short attention span and potential challenges with typical development suggest that traditional reading instruction is inappropriate for emerging readers. This is evident in the class often losing focus during lengthy lectures but engaging more actively when the teacher uses segmented, entertaining phonics activities. Research by Rice et al. (2022) and Wardana et al. (2022) concluded that children retain more phonetic information after short lessons when these lessons are combined with multisensory and tactile exercises. Moreover, it was stated that children with developmental delays need more flexible and differentiated instruction to acquire decoding skills before special education support is introduced in later grades (van der Weijden et al., 2024). Thus, to address the needs of such students, it is important to design a phonics intervention that uses segmented, gamified materials to equip them with the skills they need.

Theme 4: Learning Through Laughter: The Dance of Play and Sound

The findings reveal that teachers overwhelmingly prefer play-based, game-oriented, and multisensory instructional methods over traditional written exercises. Participant 1 stated, "mas madalas kami naglalaro, play base," and described activities where children compete to find letters and distinguish sounds. This participant explicitly contrasted play-based approaches with written work, explaining that "pag written, nauubos talaga ang oras namin. Nagpapaiyakan kapag sulat-sulat kami," indicating that paper-and-pencil tasks consume excessive time and cause frustration.

Participant 2 similarly emphasized the value of "play manipulatives" and inserting games into instruction, noting that these are what children "mas gusto nila." Participant 5 described their intervention practices as including "may mga laro, may mga worksheets," suggesting a balanced but play-oriented approach.

Repetition and systematic review of basic skills emerged as another key pedagogical strategy. Participant 2 explained that for struggling learners, they employ "paulit-ulit, ano lang naman, repetition lang naman" and return to basic lessons. Participant 3 described the Alpabasa program as effective because of its systematic approach: "yung paulit-ulit, yung repetition" combined with hand movements and songs creates a complete system that enhances retention.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Teachers also described establishing classroom routines to structure phonics instruction. Participant 2 explained, "yung routine mam. Nag-establish ako ng routine" and described scheduling letter-sound activities during optimal attention periods, such as before recess when children are not yet hungry. This participant noted that "pag nagutom, kesa kung iano ko pa, malapit ng recess, na ano na sila, distracted na sila," demonstrating awareness of how timing affects attention and learning.

The preference for tactile activities was evident in Participant 3's description of using clay: "mas mahilig po ang mga bata kung mag-clay. Mas nai-enjoy po nila yung pag-clay." This participant reported incorporating clay into many activities, suggesting that hands-on manipulation enhances engagement and learning. Collectively, these findings indicate that teachers intuitively recognize the developmental appropriateness of play-based, multisensory approaches and actively resist overly abstract or sedentary methods.

The teachers' inclination towards the game- and play-based phonics approach signifies that knowledge acquisition at an early age occurs more quickly when abstract grapheme-phoneme connections are introduced through a tactile, engaging environment. The teachers report that children become tired and frustrated when asked to do paper-and-pencil activities, and that manipulatives, games, and gestures better keep them engaged. Additionally, they report incorporating repetition and routine into phonics instruction to avoid children's fatigue, especially before recess, when hunger and tiredness are common. The information gathered supports the need to develop game- and play-based phonics activities structured to ensure that young children are engaged at their developmental levels.

The information gathered corroborates previous studies that reveal the efficacy of play-based phonics activities in supporting early learners in acquiring reading skills. Wardana et al. (2022) reveal that the introduction of manipulatives and games supports children's motivation and reduces frustration and poor information retention. Similarly, Rice et al. (2022) agree that repeated phonics activities over a short period help improve literacy levels when incorporated into young children's routines. Another study by Nkurunziza (2024) finds that multisensory phonics instruction is more effective for children than paper-and-pencil activities.

Interventions Implemented by Teachers

This part presents the interventions that teachers implemented to address the learning gap in literacy mastery. Three major themes emerged.

Table 15. Summary of Major Themes and Sub-Thematic Codes (Interventions)

Major Theme	Thematic Codes
Theme 5: One Child, One Moment: The Quiet Art of Personal Attention	One-on-one intervention; Teacher consultation/research
Theme 6: Colors That Speak: When Letters Come Alive in Their Hands	Visual/manipulative materials; Interactive/laminated materials; 3D/tactile materials; Flashcards; Mapping boards; Reading corners
Theme 7: The Rhythm of Reading: Finding Order in the Symphony of Sounds	Alpabasa system materials

These three major themes provide an in-depth understanding of related intervention approaches for addressing the underlying problems in phonemic mastery.

Theme 5: One Child, One Moment: The Quiet Art of Personal Attention

The findings demonstrate teachers' commitment to providing individualized support for struggling learners, often at considerable personal cost. Participant 3 described conducting "individual intervention sa mga bata" by keeping at-risk learners after class for targeted instruction: "Nagpapaiwan po ako ng bata talaga sa klase na gusto ko pong

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

matutukan." Participant 5 similarly reported, "nagpapaiwan po ako ng bata, nagwa one-on-one activity po ako," indicating systematic use of individualized instruction for learners who need additional support.

Participant 6 described dedicating personal time for intervention, stating, "nag-schedule ako, ma'am, ng kahit 15 to 30 minutes talagang nilalaan ko yung break time ko para tutukan sila, ma'am." This participant acknowledged the personal sacrifice involved: "kahit anong oras ako umuwi," demonstrating remarkable professional dedication in the face of systemic constraints.

Teachers also described consulting colleagues and conducting self-directed research to improve their practice. Participant 6 explained, "Nagtatanong ako ng mga best practices dun sa mga kalapit kong schools," and added, "Pero nagre-research din naman po ako." This finding suggests a culture of professional collaboration and continuous improvement, with teachers actively seeking effective strategies from peers and external sources.

The use of development trackers for monitoring individual progress was described by Participant 6, who noted, "may development tracker sila, ma'am. Ina-checkan ko yung mga natama nila." This participant described setting specific targets, such as "makasulat muna sila ng name," before advancing to other competencies, indicating differentiated expectations based on individual learner needs. These findings collectively illustrate that while teachers employ individualized and differentiated instruction, these efforts rely heavily on personal initiative rather than institutionalized support systems.

The qualitative results on individual attention suggest that developing early phonics recognition is a highly individualized process that requires close, individualized interaction to help students overcome their specific challenges when the whole class is being taught. When observing teachers' behavior, one notices that they devote an extra 15-30 minutes to individual or small-group tuition to help their students overcome their phonics challenges and track their progress. However, it is notable that such attention requires teachers to sacrifice their free time, as schools do not schedule sufficient time to address the needs of struggling readers. Thus, the qualitative data reveal the need to develop a phonics intervention to be integrated into the school timetable, enabling teachers to address their students' needs promptly rather than relying on voluntary extra hours.

The qualitative results support the claims in the published works about the benefits of targeted treatment, progress tracking, and institutional-level intervention for early readers. First, Rice et al. (2022) found that short phonological awareness interventions in small groups or one-on-one help struggling readers benefit significantly from the additional support. Second, Eysink & Schildkamp's (2021) study discovered that implementing instructional adjustments based on progress tracking helped children learn to read at an individual pace, preventing reading difficulties. Finally, van der Weijden et al. (2024) found that institutional-level interventions are essential for addressing early literacy challenges, as they help balance teachers' workloads while meeting children's learning needs.

Theme 6: Colors That Speak: When Letters Come Alive in Their Hands

The findings reveal strong teacher preferences for durable, colorful, and manipulable instructional materials that enhance engagement and retention. Participant 3 described extensive use of "visual materials," including "iba't ibang flashcards, gaya mam, yung alpabasa." This participant reported affixing red letters to each learner's table so that "nakikita nila tapos tinuturo-turo po nila yun habang kumakanta kami," indicating that environmental print supports letter recognition.

Participant 4 described using mapping boards and tokens for phoneme segmentation and blending, noting that "mukhang nagiging effective, ma'am, yung ano" when children manipulate tokens to represent sounds. This participant observed that children spontaneously perform hand gestures associated with letter sounds, stating "sila mismo, kumikilo sila, ginaganon nila ang action ng kamay nila," suggesting that multisensory encoding enhances automaticity.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

When asked about ideal materials to develop, teachers expressed preferences for interactive and three-dimensional resources. Participant 1 described wanting "laminated, ma'am, tapos nakakabit, nadidikit" materials that are "more of interactive po. Colorful para at least active po talaga sa kanila." Participant 2 elaborated on the desire for "3D na materials," describing "mga clicker-clicker" and letter blocks that children can physically manipulate. This participant envisioned an ideal classroom with "may toys, may area tayo ng play lang, may area tayo na more on yung pagbasa, may area tayo doon ng mga phonics lang siya, letters, iba-iba sana," indicating a preference for differentiated learning centers.

Participant 3 emphasized the value of clay activities, stating, "mas mahilig po ang mga bata kung mag-clay. Mas nai-enjoy po nila yung pag-clay," and reported incorporating clay into many phonics activities. However, teachers also expressed concern about material costs. Participant 1 noted "kaya lang magastos," while Participant 2 elaborated that materials are "matrabaho, magastos" and that they lack MOOE support, forcing them to use "sariling bulsa." These findings suggest that while teachers recognize the pedagogical value of high-quality, multisensory materials, resource constraints limit their ability to acquire or produce them consistently.

The teacher's emphasis on using interactive, colorful, and tactile materials indicates that they learn phonics through abstract concepts associated with materials and multisensory means. During classroom practice, the teacher observes that the students develop a faster grasp of letters and their sounds when using tokens on mapping boards, playdough, table provisions of environmental print, and hand movements to demonstrate phonics. At the same time, the teacher discovers that most students learn phonics more effectively with materials purchased with personal funds rather than those provided by the institution. These observations help the teacher determine the need to establish an appropriate phonics scope using affordable laminated interactive materials to achieve deeper learning through multiple sensory experiences without financial strain.

These ideas are further supported by recent studies highlighting the importance of incorporating multisensory and tactile materials into phonics instruction. For instance, Wardana et al. (2022) find that the use of visual, tactile, and interactive materials in phonics instruction promotes higher levels of phoneme segmentation and faster development of grapheme-phoneme relationships among students. In another study, Vadasy and Sanders (2021) report that multisensory encoding, combined with specific tactile interactions, facilitates better retention of letter-sound connections and reduces decoding errors in young learners. Lastly, Gehsmann and Mesmer's (2023) study provides evidence that print-rich, interactive settings incorporating affordable manipulatives play a fundamental role in promoting reading readiness among early childhood learners.

Theme 7: The Rhythm of Reading: Finding Order in the Symphony of Sounds

The findings indicate strong teacher endorsement of the Alpabasa program as an effective structured phonics system. Participant 3 described Alpabasa as comprehensive and systematic: "puwera dun sa routine, yung mga galaw ng kamay, yung tugtog, kumpleto siya, ma'am, eh." This participant emphasized that "yung upper niya, yung paulit-ulit, yung repetition" enhances retention, and reported that "upper-laki po upper ang tulong na Alpabasa" for at-risk learners.

Participant 4 similarly praised Alpabasa, stating, "medyo mas ano siya, effective kasi diba mam may sinusundan tayo, mas systematize sya." This participant observed tangible improvements in blending skills, noting that children now remember sounds and can blend them independently: "noon mam parang hirap pagbe-blend. Pero ngayon, para yung blending ng sounds ng mga letter nila." This participant also reported that children spontaneously perform hand gestures without prompting: "sila mismo, kumikilo sila, ginaganon nila ang action ng kamay nila," suggesting that the program's multisensory approach enhances automaticity.

Participant 4 described using the mapping board component of Alpabasa, noting that children enjoy the "karera" aspect, where they move tokens to represent sounds and syllables. However, this participant also identified a challenge: when the mapping board kit includes multiple components (sticks, tokens, containers), children's attention becomes distracted. The solution was to simplify the materials: "tinatanggal ko yung stick sa upperware"

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

and using only “tunog-token at saka panting-token na lang muna,” indicating that teachers adapt structured programs to match learner attention capacity.

Participant 2 described returning struggling learners to basic skills within the Alpabasa framework, explaining “babalik muna naman” to shapes and patterns before advancing to letters. This participant also described using flashcards for letter-sound matching and incorporating games into instruction, suggesting that structured programs can be supplemented with play-based activities. Collectively, these findings indicate that teachers value the systematicity and multisensory features of Alpabasa, while also exercising professional judgment in adapting its implementation to meet diverse learners’ needs.

The strong teacher endorsement of systematic, multi-sensory phonics programs indicates that early blending automaticity develops most effectively when exposure to structured repetition is combined with integrated kinesthetic and auditory routines. Teachers observed that the structured system prompts independent sound blending and spontaneous gestural recall in beginning readers, thereby supporting retention through motor responses. In addition, they recognized the need to modify multifaceted components of such programs to minimize distractions during lessons while still maintaining the key system element of phonemic routines. Therefore, the two main observations suggest that the most effective early phonics intervention will combine systematic, multisensory structures with a streamlined, distraction-free design.

Indeed, two recent reading research articles support the observed effectiveness of structured, multisensory phonics programs. First, Rice et al. (2022) showed that systematic and repeated phonemic awareness instruction, combined with multisensory phoneme-blending prompts, leads to accelerated decoding and improved blending skills. Next, Vadasy and Sanders (2021) found that explicit multi-sensory encoding, along with attention to kinesthetic elements, supports memory consolidation, thus facilitating the acquisition of new sounds without mixing them up. Finally, van der Weijden et al. (2024) found that early literacy interventions require teacher adjustments to ensure sufficient complexity to engage students during lessons.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Convergence of the Quantitative and Qualitative Findings

Table 16. Convergence Matrix: Quantitative Versus Qualitative Results

Quantitative Domain and Key Metrics	Qualitative Theme and Findings	Alignment Status	Convergence Rationale
High Baseline Deficits in Q1 Phonics and Literacy			
Phonics Beginning: 87.12% Literacy Beginning: 72.99% Low initial Consistency (< 2%)	Theme 1: Bridges Unbuilt (lack of daycare history, zero initial letter awareness, limited home support) Theme 2: Walls of Want (socioeconomic deprivation, hunger, isolation)	Supports	Explains why learners entered Kindergarten with severe foundational gaps. The absence of early childhood exposure and home print environments accounts for the skewed Q1 Beginning metrics.
Growth in Phonics Recognition Mastery			
Q4 Consistent: Rhyming (53.75%), Blending (54.00%), Syllables (53.58%) Overall Phonics Consistency reached 53.23% in Q4	Theme 4: Learning Through Laughter (play-based learning, games, repetition, routines) Theme 7: The Rhythm of Reading (systematic Alpabasa program, songs, kinesthetic hand gestures)	Supports	Explains the structural transition to phonics mastery. Teachers moving away from paper-and-pencil drills toward gamified, systematic, and rhythmic routines directly enabled automated sound segmentation and blending.
Mastery in Alphabet Recognition			
Q4 Uppercase Consistency: 60.71% Q4 Lowercase Consistency: 61.29% Q4 Case Matching Consistency: 61.33%	Theme 6: Colors That Speak (use of 3D materials, tactile clay, mapping boards, flashcards, environmental print on tables)	Supports	Explains the high rate of grapheme identification. Visual and tactile manipulatives provided physical scaffolding, allowing learners to distinguish similar lowercase forms and associate letter pairs effectively.
Phonemic and Grapheme–Phoneme Gains			
Identifying/Matching Letter Sounds: ~59.55%–60.05% Consistent Spelling Simple Words Phonetically: 49.36% Consistent	Theme 5: One Child, One Moment (1-on-1 instruction, staying after class, break-time coaching, progress tracking) Theme 7: The Rhythm of Reading	Supports	Explains how struggling readers bridged decoding gaps. Targeted, individualized intervention combined with multisensory sound–symbol encoding allowed learners to progress systematically toward phonetic spelling.
Residual Baseline Strugglers in Q4			
Phonics Beginning: 12.87% Literacy Beginning: 9.32% Phonetic Spelling Beginning: 12.73%	Theme 2: Walls of Want (severe absenteeism, mountain-dwelling Aeta learners) Theme 3: Fragile Focus (short attention spans, undiagnosed learning delays/SNED manifestations)	Supports	Explains why a minority of learners failed to achieve consistent proficiency. Chronic absenteeism due to geographic and financial barriers and unaddressed developmental delays placed an upper ceiling on intervention reach.

The quantitative metrics and qualitative thematic findings exhibit a convergent, mutually reinforcing relationship. The quantitative data demonstrate a progressive, multi-quarter shift from foundational deficits in Quarter 1 to widespread competency by Quarter 4 across phonics recognition mastery and literacy proficiency. Specifically, overall phonics Beginning levels dropped from 87.12% in Q1 to 12.87% in Q4, while Consistent mastery rose from 1.41% to 53.23%. Similarly, overall literacy proficiency saw Beginning levels decline from 72.99% in Q1 to 9.32% in Q4, with Consistent levels reaching 57.47%.

The qualitative findings provide the contextual mechanisms that explain both the initial baseline deficits and the trajectory of the quantitative gains. High initial Beginning rates are directly supported by qualitative themes detailing a widespread lack of daycare experience, limited parental follow-up, parental illiteracy, and severe socioeconomic constraints. Conversely, the quarterly gains toward Consistent mastery are directly supported by teachers' deliberate implementation of play-based multisensory instruction, systematic phonics tools (e.g., the Alpabasa program), interactive visual/3D manipulatives, and dedicated one-on-one remediation. Lastly, the residual ~9% to 12% of learners remaining at the Beginning stage in Quarter 4 converges with qualitative evidence

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

highlighting short attention spans, undiagnosed developmental delays, chronic absenteeism, and extreme geographic isolation.

The convergent findings demonstrate that early phonics and literacy development are acquired through a highly contextualized process in which initial deficits reflect environmental gaps, while multi-quarter mastery is driven by structured, multisensory remediation. High initial baseline deficits in Quarter 1 align with the cognitive model of reading acquisition articulated by Hoover and Tunmer (2021), which posits that word decoding relies heavily on pre-existing oral language and home print scaffolding— foundations often lacking due to limited daycare experience and low parental literacy. The multi-quarter shift toward majority consistency by Quarter 4 validates the Active View of Reading framework (Duke & Cartwright, 2021), which establishes that explicit instruction in bridging processes—such as syllable counting, phoneme blending, and visual grapheme manipulation—directly accelerates reading automaticity. These empirical gains are further explained by Wardana et al. (2022) and Nkurunziza (2024), who observed that replacing rigid paper-and-pencil drills with gamified routines, systematic phonics tools (e.g., the Alpabasa program), and tactile manipulatives enhances learner engagement while bridging home-school gaps. Finally, the residual ~9% to 12% of non-mastery in Quarter 4 converges with qualitative evidence detailing short attention spans, undiagnosed developmental delays, and chronic absenteeism, reinforcing Shaywitz and Shaywitz's (2020) finding that learners with unaddressed neurodevelopmental needs require sustained, individualized Tier-2 interventions rather than standard classroom exposure alone.

Proposed Phonics Intervention Material: The S.M.A.R.T. Phonics Intervention Framework

Based on the quantitative results (phonetic spelling and word structure lagged behind letter identification) and the qualitative findings (the intervention should be low-cost, durable, play-based, home-friendly, and structured), the S.M.A.R.T. Phonics Intervention Framework (Structured, Multisensory, Adaptive, Resource-conscious, Triadic) is proposed (Table 17).

Table 17. S.M.A.R.T. Phonics Intervention Framework

S.M.A.R.T. PHONICS INTERVENTION FRAMEWORK (Structured, Multisensory, Adaptive, Resource-conscious, Triadic)		
FOUNDATIONAL TIER Phonological Awareness (Rhyming, Syllables)	**INTEGRATION TIER** Grapheme-Phoneme Maps (Sounds, Blending)	**ADVANCED TIER** Encoding and Synthesis (Spelling, Sentences)
CROSS-CUTTING PILLARS 1. Multisensory and Play-Based Materials (Clay, Tokens, Games) 2. Low-Cost, Laminated, Durable Design (MOOE-Friendly) 3. Triadic Support (Home Activity Kits and Video Guides)		

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Table 18. Framework Core Components and Instructional Action Matrix

Pillar	Focus Areas	Derived Empirical Need	Intervention Material Design and Strategy
Pillar 1: Foundational Phonology	Rhyming and Syllables	High Q1 entry deficit (44.77% Beginning) transitioning to 53%+ Q4 mastery.	**Audio-Kinesthetic Rhythm Kits:** Syllable-clapping cards, rhyming picture-matching tiles, and rhythm chants.
Pillar 2: Visual and Sound Binding	Letter Identification and Sound Matching	Over 60% reached consistency in letter/sound matching by Q4 through routines.	**Tactile Alphabetic Boards:** Laminated 3D letter blocks, color-coded uppercase/lowercase matching slots, and tactile sound strips.
Pillar 3: Phonemic Synthesis	Blending and Grapheme Mapping	Blending consistency increased from <1% to 54.02%; requires simplified tools.	**Modular Sound-Token Boards:** Dual-token slider boards (onset-rime) without distracting extra pieces to maintain focus.
Pillar 4: Orthographic Encoding	Phonetic Spelling and Text Structure	Lowest Q4 mastery recorded in phonetic spelling (49.36%).	**Interactive Clay and Mapping Slates:** Reusable dry-erase phonetic spelling slates with clay-molding slots for CVC word building.
Pillar 5: Triadic Bridge	Home–School Continuum	Parental illiteracy, distance, and lack of daycare history.	**Take-Home Phonics Pouch:** Low-cost printed game mats paired with QR-accessible micro-demonstration videos for parents.

The S.M.A.R.T. Phonics Intervention Framework is an educational tool that uses assessment data to inform five intervention areas.

Structured and Sequential Progression (Tiered Learning Path)

Based on the quantitative analysis, the learners demonstrated better performance in identifying letters than in blending them into words. The phonics intervention must begin with a lesson on rhyming and syllables before progressing to blending techniques and phonics rules.

Teacher Activity: The Sound-to-Spelling Ladder

Goal: Help students acquire blending skills for simple words

Materials: 3-step laminated ladder with a marker

The teacher asks the learners to say the sounds in a simple CVC word or syllable. They put a token on every step of the 3-step ladder as they identify individual sounds. The students then draw the letters of the sounds on the ladder rungs to achieve sound-to-spelling blending.

Multisensory and Play-Based Integration

According to the qualitative results, most students are Kindergarten learners who cannot focus on paper-and-pencil activities for more than five minutes. Additionally, some learners are anxious when the teacher asks them to write. The phonics intervention has to be more engaging and incorporate multiple senses to enhance retention.

Teacher Activity: Clay Sound Sculptors and Token Races

Goal: Encourage letter-sound identification and build phonetic muscle memory

Materials: Playable clay, laminated picture-sound mats, and token counters

The teacher says a target sound, and the learners form it using the clay. The students then play a token-race game in which the first one to place the token on picture-sound items, starting with the target sound, wins.

Adaptive and Scaffolding Mechanism

Since the intervention kit will be used in a mixed-ability classroom with 30 to 55 students, the teacher must keep the instructions simple to avoid confusion. The educator has limited resources to provide phonics intervention for multiple children with undiagnosed developmental disabilities.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Teacher Activity: Token Sliders

Goal: Provide differentiation and scaffolding for sound blending

Materials: Laminated sliding card strips and detachable sound-window frames

The educator uses the 2-slot onset-rime slider for individual 1:1 practice with struggling students during their break time. The teacher adds the third slot to move the learner from blending two to three sounds.

Resource-Conscious and Durable Design

Based on qualitative information, some educators purchase phonics materials with their personal funds, hence the need for inexpensive yet durable intervention items. The phonics intervention activities must use readily available, long-lasting equipment suitable for a classroom of 30 to 55 students.

Teacher Activity: Bottle Top Word Builders

Goal: Help learners practice uppercase-to-lowercase matching and blending

Materials: Printed lettered plastic bottle caps and laminated card strips

The students fasten the caps onto the cardboard strips to form words or to practice uppercase-to-lowercase matching. The activity helps develop phonetic muscle memory cost-effectively and durably.

Triadic Home–School Bridge

Most children come to school without any pre-academic experience because they have not attended daycare. Some parents also have limited time to spend with their children due to economic reasons or lack the skills to conduct phonics practice at home.

Teacher Activity: Phonics-in-a-Pouch and Micro Lessons

Goal: Offer phonics practice for both parents and children at home

Materials: Zip pouches containing matching picture cards and QR code audios

The teacher sends a zip pouch with matching picture games to learners and instructs them to ask their parents or guardians to practice phonics with them using the QR code audios.

Directions for Developing Materials

Use multisensory materials such as clay, tokens, rhymes, and songs. Materials should be colorful and have visual, auditory, and tactile components for effective presentation to children with short attention spans.

Develop cost-effective materials. Use cardboard laminated with fabric and Velcro to keep costs down. The intervention kits should be durable enough for constant use without being expensive for the teacher to purchase.

Allow teachers to modify materials according to the individual child's needs. Use materials that can be modified by removing specific components, such as tokens, to reduce complexity for a particular learner.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

Part I. Phonics Recognition Mastery of the Learners'

The analysis of learners' development of phonics recognition skills across the assessed areas of segmenting yields several observations. In particular, each of the three aspects (rhyming, blending, and syllabication) demonstrates learners' positive progress in phonological awareness during the period studied. The majority of learners started at the beginning level, meaning they could only demonstrate basic phonics skills at the start of this study. Nevertheless, over time, students improved significantly, and by the end of the school year, most had reached the advanced level. In addition, learners' progress across all three areas was consistent, suggesting that the more attention is paid to developing phonological awareness, the better the results. However, the described positive trends do not apply to all learners. Since some learners demonstrated struggles with phonics development at both the beginning and middle of the year, it will be useful to design a targeted phonics-based intervention to help them overcome their reading challenges. Part II. Literacy Proficiency of the Learners

The results of the early literacy assessments, including knowledge of the alphabet, blending, and letter-sound connections, indicate substantial improvement for the learners from the beginning of the year till the end of this study. Most students have demonstrated improvement over time and can now identify complex lowercase visual patterns, make uppercase-to-lowercase connections, and associate letters with their sounds. With consistent practice in letter tracking and hearing the sounds associated with each grapheme, students have been able to progress through the early stages of reading instruction. Although encoding phonemes was more challenging than visual pattern recognition, students demonstrated a significant increase in their phonemic blending proficiency throughout the year. To summarize, the progress observed in the majority of students is adequate. Yet a small percentage of learners were unable to overcome challenges related to basic spelling and letter-sound relationships. Thus, phonics instruction would benefit all students by helping them develop appropriate literacy skills. Part III. Challenges Encountered and Intervention by Teachers

Navigating early literacy instruction is not an easy task for teachers who often encounter severe social deprivation and developmental challenges among their pupils. Serious social issues such as the absence of home-school connection due to lack of early childhood education, limited parent involvement due to working or illiterate parents, geographical isolation, child hunger, and large class sizes with insufficient resources characterize the early childhood education environment. Furthermore, teachers often have to deal with learners' short attention spans during class and learners with special needs who may not have been identified. Teachers address these issues by employing multiple strategies at home or at school and drawing on their own creativity to facilitate early literacy development among their pupils. Through home visits, phone calls, or even by providing food, teachers try to engage home resources to achieve positive school readiness outcomes. In the classroom, teachers try to replace traditional, often ineffective, paper-and-pencil activities with more interactive and multisensory instruction. Teachers use objects, actions, or games to capture learners' attention during critical moments and introduce key concepts in phonics instruction, such as modeling clay, through repetition and other related techniques. The study, therefore, reveals that despite social deprivation or developmental issues, teachers can engage in context-based phonics instruction using play or games in early childhood education to achieve positive literacy outcomes. Part IV. Phonics Intervention Material

To address the emerging problem of illiteracy, educators take time to individualize instruction, focusing on engaging struggling learners' attention through multisensory activities and providing appropriate one-to-one assistance. Teachers also actively address the issue by setting aside their personal time to provide additional help to learners who need it. The key is to create engaging activities using various tools (playdough, maps, flashcards, etc.) to ensure that learners stay engaged and their phonemic awareness improves.

In addition, teachers try to introduce effective phonics-based programs with built-in repetitions, hand movements, and songs that help children to master the basics of reading without additional strain. However, these important

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

measures require extra hours outside school and absence from regular teaching activities. In addition, teachers should buy supplies for the class so that kids feel comfortable during activities. Finally, phonics is presented in a simpler way to avoid distracting inattentive children. Therefore, schools need to offer phonics intervention programs that use multisensory tools and provide children with individual phonics training. Part V. Framework for Phonics Intervention Material

The basis developed for the S.M.A.R.T. Phonics Intervention Framework, discovered during the researcher's investigation, may be used to structure the new system around the following five pillars. In the phonics stage of education, the process begins by engaging learners in diverse activities that gradually introduce them to more complex concepts. Instead of conventional boring exercises, young learners will be able to participate in a variety of play-based activities, such as games with clay and tokens, races, and more. Additionally, the framework may involve differentiating the introduced material based on learners' abilities. As classes often include learners with diverse skills and levels of literacy, teachers should not challenge the weaker learners; instead, they should focus on reaching the higher-performing learners. It is also essential to ensure that the intervention offers more accessible resources in terms of availability and affordability to avoid placing additional stress on educators. Finally, by bringing the family into the educational process and providing parents with specialized tools to practice with their children at home, phonics instruction will become more effective and unite educational stakeholders.

Conclusions

The conducted study illustrates the learners' impressive progress in phonics from the beginning of the course to its end, as the majority of them were able to move from the developing stage to the consistent one, mastering the segmentation of the heard word, identifying letters, understanding the connection between graphemes and phonemes, and reading words using their phonetic spelling. Still, some students struggled to learn more complex encodings and phonetic spelling, and it is vital to invest sufficient time and effort in teaching them these skills. The participants faced many challenges, including a lack of preschool education, parental support at home, attention, proper nutrition, and class size. The teachers managed to overcome these difficulties by investing their personal time and resources to improve the learners' phonics skills and make the learning process more attractive. Instead of making the students do boring exercises, the educators made them play educational games and introduced various activities to help them establish the connection between sounds and letters. As a result, they were able to maintain the learners' attention and help them memorize the phonetic spelling. The results of this study contribute to the current understanding by providing specific interventions that can be used in the process of teaching reading. All of them are aimed at maximizing efficacy (S.M.A.R.T. Phonics intervention), are multisensory and low-cost, engage learners in reading activities at school and at home, address teachers' concerns, and ensure that all students have a solid literacy foundation.

Recommendations

To translate the empirical findings and conclusions of this study into practical educational practices, the following actionable recommendations are offered. These proposals provide clear pathways for school administrators, educators, and community stakeholders to strengthen phonics instruction through sustainable, learner-centered intervention strategies. 1. Institutional Adoption of the S.M.A.R.T. Phonics Framework

School administrators and curriculum developers should formally integrate the S.M.A.R.T. Phonics Framework into early reading policies. Interventions structured around this model ought to adhere strictly to sequential progression, multisensory engagement, cost-effective material design, and home-school alignment. Standardizing these core parameters ensures that foundational reading instruction remains systematic, equitable, and developmentally appropriate across early grade levels. 2. Transition to Play-Based and Kinesthetic Phonics Instruction

Classroom teachers should replace repetitive, workbook-heavy tasks with tactile, play-centered learning activities that align with young children's attention spans and fine motor skills. Incorporating hands-on materials such as modeling clay, token-movement games, and rhythmic segmenting exercises helps reinforce letter-sound

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

relationships without causing academic stress. This approach transforms abstract phonemic concepts into accessible, low-anxiety interactive experiences. 3. Administrative Funding for Durable, Low-Cost Learning Materials

School heads must allocate institutional resources to purchase and assemble reusable phonics toolkits, relieving teachers of the burden of self-funding classroom supplies. Investing in a class set of laminated instructional sheets, word-building trays, and tools made from recycled materials establishes a permanent inventory of learning aids. This systemic support ensures that all classrooms have continuous access to quality manipulative resources. 4. Structural Integration of Targeted Intervention Hours

School leadership should embed dedicated, small-group remediation sessions directly into the official school timetable. Designated coaching blocks ensure that struggling and at-risk readers receive timely, individualized instruction within normal school hours. Systematizing remediation safeguards instructional equity for students while preventing teacher burnout caused by informal, off-hours tutoring. 5. Establishment of Inclusive Home-School Literacy Partnerships

Educators should create accessible home-learning channels by distributing portable phonics pouches containing simple game boards and clear audio guides. Crafting parent-facing materials that require no prior pedagogical expertise or high levels of adult literacy empowers families across all socioeconomic backgrounds to consistently reinforce decoding skills at home.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

ACKNOWLEDGMENT

This research stands as a testament to a journey that could never have been walked alone. To each individual who so generously lent their time, wisdom, and strength to bring this study to fruition, I offer my deepest and most heartfelt gratitude.

To Dr. Ariel A. Bongco, Chairman of the Oral Examination Committee, and Dr. Vicente B. Lintag, OIC-Dean of the Graduate School, alongside the distinguished members of the defense committee, thank you for your invaluable criticism, scholarly wisdom, and insightful suggestions that meticulously elevated the quality of this work.

To my statistician, Dr. Ronaldo A. Punla, thank you for your steadfast professional guidance and painstaking supervision. Your expertise ensured the accuracy, precision, and utmost integrity of the data that anchors this study.

To Ms. Hershey Lapid, Secretary of the TRC Graduate School, my sincere appreciation for your relentless assistance, patience, and warmth.

My earnest gratitude goes to Dr. Carolina S. Violeta, CESO V, Schools Division Superintendent, for officially granting permission to conduct this research across the division, and to Dr. Rodger R. De Padua, Mariveles District Supervisor, for opening the district to this endeavor.

To Ma'am Gemma F. Dalugdug, Kinder Principal Coordinator, and the Public Elementary School Principals of the Mariveles District, thank you for welcoming me with open arms, extending your hospitality, and facilitating the data collection at your respective schools.

To Sir Honeybert G. Dayanan and Ma'am Essel E. Reyes, thank you for lending your expertise to validate the research instrument, ensuring its clarity and methodological rigor.

To Dr. Marjorie M. Palomo, thank you for serving as a validator and a true source of inspiration; your unwavering encouragement as school principal continuously paved the way forward.

To my adviser, Dr. Isagani B. De Leon, words cannot fully capture my gratitude for your profound wisdom, endless patience, and steady mentorship. Your guidance served as a compass whenever the process felt overwhelming.

To my friends and relatives, thank you for every effort, prayer, and word of encouragement offered along the way.

To Wyeth, Alieah, and Papa, my constant pillars of strength—thank you for being my sanctuary. Your love and presence reignited my devotion during the moments when tired spirits almost gave in.

To Ezekiel, my confidant, thank you for your untiring faith in me. Your continuous moral, emotional, and intellectual support pushed me past my doubts and kept me grounded.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

REFERENCES

Abma-Schouten, R., Brunet, D., & Müller, A. (2023). Methodologies of qualitative instrumentation: Field tests and expert panel reviews in dissertation research. In Advanced Research Methods in Education (pp. 112–129). IGI Global.

Acha, J., Rodríguez, N., & Perea, M. (2023). The role of letter knowledge acquisition ability on children's decoding and word identification: Evidence from an artificial orthography. Journal of Research in Reading, 46(4), 358–375. https://doi.org/10.1111/1467-9817.12432

Adewale, H. G. (2025). Phonics-based strategy on reading performances of pupils with learning disabilities in Ibadan metropolis, Nigeria. Journal of New Perspectives in Educational Research, 1(1), 29–42.

Al Otaiba, S., Petscher, Y., & Williams, R. (2022). Literacy interventions for elementary students with reading difficulties and disabilities, including dyslexia. Reading & Writing Quarterly, 38(4), 310–328.

Almazan, M. T. T., & Almeda, J. A. B. (2025). Reading challenges encountered by learners and teacher-implemented interventions: A structured literature review. International Journal of Educational Research and Innovation, 5(2), 45-58.

Alonzo, J., & Kim, Y. S. (2024). Validating classroom-based diagnostic assessments: The role of teacher proximity in early literacy monitoring. Early Childhood Education Journal, 52(2), 433–448. https://doi.org/10.1007/s10643-023-01522-8

Alotaibi, M. (2024). The impact of game-based learning on cognitive skills, engagement, and motivation of young learners. Journal of Education and Learning, 19(2), 350–362. https://doi.org/10.11591/edulearn.v19i2.2127354

Alshaboul, Y. (2023). Evaluating the availability and utilization of phonics instructional materials in early primary school classrooms. Journal of Language and Literacy Education, 19(1), 102-119.

Amico, A. (2022). The effects of multisensory learning in the reading readiness process of preschool children (Publication No. 29163255) [Doctoral dissertation, Caldwell University]. ProQuest Dissertations and Theses Global.

Anku, E. (2024). Implementing sound-blending frameworks within structured early childhood reading interventions. Journal of Literacy and Reading Instruction, 12(1), 45–59.

Arevalo, R. T. (2023). Remediation strategies and reading performance of elementary pupils (Unpublished master's thesis). Philippine Normal University, Manila, Philippines.

Babbie, E. R. (2021). The practice of social research (15th ed.). Cengage Learning.

Badillo, M. C. (2025). The phonological awareness of the primary grade learners of San Roque Elementary School. Pantao Journal of Multidisciplinary Research, 3(1), 45–58.

Batanes, G. L., & Ramos, M. C. (2026). Socioeconomic barriers and home literacy environments: Challenges to phonics mastery in primary school learners. Philippine Journal of Early Childhood Education, 14(1), 89-104.

Björgvinsdóttir, A. S. (2025). Foundational reading skills for all: Assessment and explicit teaching in inclusive classrooms. University of Iceland Repository. https://opinvisindi.is/items/b1fa2da8-21bb-4a38-b9ed-9857e79c3b1d

Blubaugh, C. (2023). Letter recognition strategies for struggling students. Mrs. B's Beehive.

Bowers, J. S., & Bowers, P. N. (2024). The importance of structured literacy and phonics instruction. Educational Psychology Review, 36(1), 1–25. https://doi.org/10.1007/s10648-023-09700-1

Braun, V., & Clarke, V. (2021). Thematic analysis: A practical guide. SAGE Publications.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Braun, V., & Clarke, V. (2022). Conceptualising qualitative data analysis within reflexive thematic analysis. Qualitative Research in Psychology, 19(4), 1145–1162.

Buckingham, J., & Wheldall, K. (2023). Why systematic synthetic phonics instruction is necessary for effective reading education. Australian Journal of Learning Difficulties, 28(1), 15–32.

Buckingham, J. (2023). Systematic synthetic phonics in the primary years: Overcoming the alignment gap in early childhood literacy. Journal of Curriculum Studies, 55(2), 145–162.

Buckingham, J. (2023). Systematic synthetic phonics instruction: Teacher knowledge, training, and classroom implementation challenges. Australian Journal of Education, 67(2), 143-158.

Cabigao, J. R. (2024). Implementation hurdles of mandated reading frameworks among public school teachers in local divisions. Journal of Asian Multidisciplinary Studies, 12(3), 211-226.

Cagsawa, A. M., Delos Santos, R. B., & Mendoza, E. C. (2024). Explicit phonics instruction and guided reading strategies in improving early grade word-decoding efficiency. Asia Pacific Journal of Multidisciplinary Research, 12(1), 45–56.

Campbell, S. (2023). Letter recognition: Activities for mastering letter names and sounds. Campbell Creates Readers.

Campilla, M. E., & Cariño, C. M. (2024). Reading literacy of elementary learners and foundational skill intervention. International Multidisciplinary Journal of Research for Innovation, Sustainability, and Excellence, 1(5), 59–64.

Campilla, M. E., & Cariño, C. M. (2024). Reading literacy of Grade 7 learners. International Journal of Open-access, Interdisciplinary and New Educational Discoveries of ETCOR Educational Research Center (iJOINED ETCOR), 3(2), 319–334.

Chall, J. S. (1983). Stages of reading development. McGraw-Hill.

Chen, J. J., Kacerek, C. R., & Ruiz, M. (2023). The letter-naming benchmarks, growth profiles, and the efficacy of an interactive learning app on uppercase letter-name learning for preschool children. International Journal of Technology in Education, 6(1), 113–135. https://doi.org/10.46328/ijte.360

Chen, M., Goh, H. S., Soo, R. S., & Yin, G. (2022). The effectiveness of an instructional guide on Chinese pre-service EFL teachers' knowledge in teaching phonics. Studies in English Language and Education, 9(2), 554–573.

Cherobon, V., & Atoni, R. (2022). Reading abilities of learners in public primary schools in Nandi County, Kenya. East African Journal of Education Studies, 5(2), 61–68.

Clay, M. M. (1966). Emergent literacy [Unpublished doctoral dissertation]. University of Auckland.

Cohen, L., Manion, L., & Morrison, K. (2023). Research methods in education (9th ed.). Routledge.

Creswell, J. W., & Creswell, J. D. (2023). Research design: Qualitative, quantitative, and mixed methods approaches (6th ed.). SAGE Publications.

Cunningham, A. J., Harrison, S., & Burgess, A. (2022). Deconstructing phonological awareness: The mechanical sub-skills underpinning early reading mastery. Journal of Experimental Child Psychology, 214, Article 105280.

Cunningham, A. J., Harrison, S., & Burgess, A. (2022). Phonological sensitivity and the early steps of reading development: Tracking the rime and phoneme. Journal of Experimental Child Psychology, 214, 105–124.

Dagada, M. (2022). Foundation Phase teachers' challenges in teaching reading in South Africa. South African Journal of Education, 42(Suppl. 1), 1-9. https://doi.org/10.15700/saje.v42ns1a2219

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Davis Gonzales, D. A., & Haynes, S. (2026). Bridging the gap: Early childhood reading instruction grounded in the science of reading. Journal of Early Childhood Education, 23(1), 12–28.

Demchak, A., & Solari, E. J. (2025). Predictors of Early Word Reading: The Role of Letter-Sound Correspondence. Journal of Literacy Research.

Department of Education. (2025). End-of-School-Year (EOSY) Comprehensive Rapid Literacy Assessment (CRLA) Dashboard: Region III - Bataan - Mariveles. National Literacy Assessment Portal. https://datastudio.google.com/u/0/reporting/1a2b7706-a54d-4646-82b7-93da6a9eb7d3/

Dilgard, C., Hodges, T. S., & Coleman, J. (2022). Phonics instruction in early literacy. Reading Psychology, 43(8), 541–575. https://doi.org/10.1080/02702711.2022.2126045

Donegan, R. E., & Wanzek, J. (2021). Effects of reading interventions for upper elementary students with reading difficulties: A systematic review. Educational Psychology Review, 33(4), 1313–1343. https://doi.org/10.1007/s10648-021-09608-x

Donegan, R. E., & Wanzek, J. (2021). Effects of reading interventions implemented for upper elementary struggling readers: A look at recent research. Reading and Writing, 34(8), 1943–1977. https://doi.org/10.1007/s11145-021-10123-x

Dugan, M. J. (2025). Exploring phonics instruction and strategies in emerging literacy: A phenomenological inquiry into effective early literacy interventions [Doctoral dissertation, Liberty University].

Duke, N. K., & Cartwright, K. B. (2021). The active view of reading: A model of reading to guide research and practice. Reading Research Quarterly, 56(S1), S25– S44.

Duke, N. K., & Cartwright, K. B. (2021). The science of reading progresses: Communicating advances beyond the Simple View of Reading. Reading Research Quarterly, 56(S1), S25–S44. https://doi.org/10.1002/rrq.411

Ehri, L. C. (1995). Phases of development in learning to read words by sight. Journal of Research in Reading, 18(2), 116–125. https://doi.org/10.1111/j.1467-9817.1995.tb00077.

Ehri, L. C. (2022). What teachers need to know and do to teach letter–sounds, phonemic awareness, word reading, and phonics. The Reading Teacher, 76(1), 53–61. https://doi.org/10.1002/trtr.2095

Ehri, L. C., Nunes, S. R., Willows, D. M., Schuster, B. V., Yaghoub-Zadeh, Z., & Shanahan, T. (2023). Phonics instruction and reading development: A meta-analysis update. Review of Educational Research, 93(2), 245–287. https://doi.org/10.3102/00346543231100000

Eysink, T. H. S., & Schildkamp, K. (2021). Formative assessment in early literacy instruction: Data-driven decision-making for individual learning needs. Educational Studies, 47(5), 580–598. https://doi.org/10.1080/03055698.2020.1729080

Fadeev, A., & Milyakina, A. (2021). Multisensory learning environments. SHS Web of Conferences, 130, 02003. https://doi.org/10.1051/shsconf/202113002003

Fahrurrozi, F. (2022). Pembelajaran membaca permulaan di sekolah dasar. Jurnal Ilmiah PGSD, 8(2), 111-118. https://journal.unj.ac.id/unj/index.php/pgsd/article/view/8049

Fernández-Otoya, F. A., Raposo-Rivas, M., & Halabi-Echeverry, A. X. (2022). A qualitative systematic literature review on phonological awareness in preschoolers supported by information and communication technologies. Education Sciences, 12(6), Article 382. https://doi.org/10.3390/educsci12060382

Field, A. (2024). Discovering statistics using IBM SPSS statistics (6th ed.). SAGE Publications.

Fletcher, J. M., & Vaughn, S. (2022). The transition from phonological awareness to reading proficiency: Identifying bottlenecks in primary education. Journal of Learning Disabilities, 55(3), 210–225. https://doi.org/10.1177/00222194211054321

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Fricke, S., & Bowyer-Crane, C. (2021). Explicit phonics and phonemic awareness instruction in early reading acquisition: A meta-analytic review. Journal of Educational Psychology, 113(4), 712–728. https://doi.org/10.1037/edu0000621

Garcia, R., & Reodica, M. (2022). Early literacy exposure and contextual print recognition in early reading readiness. Journal of Early Childhood Literacy, 4(1), 22–34.

Gehsmann, K., & Mesmer, H. A. E. (2023). The alphabetic principle and concept of word in text: Two priorities for learners in the emergent stage of literacy development. The Reading Teacher, 77(2), 156–166. https://doi.org/10.1002/trtr.2225

Gehsmann, K. M., & Mesmer, H. A. (2023). Teaching early reading: Research-based strategies for Kindergarten through Grade 3 (2nd ed.). Guilford Press.

Guetterman, T. C., & Fetters, M. D. (2021). Integration in mixed methods research: Principles, practices, and applications. In The SAGE Handbook of Qualitative Research (6th ed.). SAGE Publications.

Hechanova, H. A., Rollo, C. R., Libdan, I. R., Jr., & Disca, B. Y. (2023). Learning through playing: Improving phonemic awareness in kindergarten learners of Eugenio Llido Rañada Elementary School. Psychology and Education: A Multidisciplinary Journal, 15(3), 942–958.

Hemmerechts, K., Agirdag, O., & Kavadias, D. (2020). The relation between parental literacy involvement, socio-economic status and reading literacy. Educational Review, 72(3), 354–372. https://doi.org/10.1080/00131911.2018.1508207

Herrera, E. M. (2023). Achieving reading skills in a group of EFL Ecuadorian children through English phonics. Research, Society and Development, 12(5). https://doi.org/10.33448/rsd-v12i5.41906

Hoover, W. A., & Tunmer, W. E. (2021). The cognitive foundations of learning to read: A framework for instruction and assessment. Springer. https://doi.org/10.1007/978-3-030-44172-2

Hoover, W. A., & Tunmer, W. E. (2021). The cognitive foundations of reading and its acquisition: A framework with applications connecting teaching and learning. Springer. https://doi.org/10.1007/978-3-030-44177-7

Hu, R., & Park, S. (2023). The role of structured phonics drills in early phonemic awareness, vocabulary growth, and lexical acquisition. Language and Literacy Education Quarterly, 19(3), 201–216.

Hulme, C., & Snowling, M. J. (2023). The science of reading: A handbook. Wiley. https://doi.org/10.1002/9781119705116

Hulme, C., & Snowling, M. J. (2024). Oral language deficits and their cascading effects on systematic phonics acquisition in primary school classrooms. Reading Research Quarterly, 59(1), 75-92

Hulme, C., Snowling, M. J., West, G., Lervåg, A., & Melby-Lervåg, M. (2020). Children's language skills can be improved by targeted interventions: Evidence from a meta-analysis of phonological awareness programs. Journal of Child Psychology and Psychiatry, 61(7), 743–755.

Johnston, S., & Al-Ghamdi, A. (2025). Explicit phonemic segmenting in second-language contexts: Pedagogical struggles of primary grade educators. International Journal of Bilingual Education and Bilingualism, 28(2), 167-182.

Joy, E., Braun, V., & Clarke, V. (2023). Doing reflexive thematic analysis: A reflexive account. In F. Meyer & K. Watson (Eds.), Qualitative research methods in social work (pp. 19–38). Springer.

Kim, Y.-S. G., & Park, C. (2023). Literacy development in multilingual contexts. Reading and Writing, 36(2), 345–368. https://doi.org/10.1007/s11145-022-10345-2

Klages, C., Miller, M., & Smith, J. (2023). Letter name and sound identification accuracy as predictors of early reading development. Journal of Early Childhood Literacy, 23(2), 201–222.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Lee, J. A. C., Chen, C. J., Ghani, K. A., Khan, R. U., Samson Juan, S. F., & Loh, B. C. S. (2023). Inclusive pedagogical model for multisensory early reading intervention for young children with dyslexia [Unpublished manuscript, Universiti Malaysia Sarawak].

Lonigan, C. J., Burgess, S. R., & Schatschneider, C. (2023). Development of early literacy skills: Evidence from longitudinal studies. Early Childhood Research Quarterly, 62, 123–135. https://doi.org/10.1016/j.ecresq.2023.03.002

Lopez, M. (2020). Understanding the connection between graphemes and phonemes: A guide for early childhood educators. Early Childhood Literacy Studies, 22(4), 301– 319.

Madelaine, A. (2023). The role of blending and segmenting proficiency in early word recognition strategies. Reading and Writing, 36(4), 841–866.

Martin, K. I. (2024). How a phonics-based intervention, L1 orthography, and item characteristics impact adult ESL spelling knowledge. Education Sciences, 14(4), 421. https://doi.org/10.3390/educsci14040421

Mayarita, Y., Amelasasih, P., & Yulyanto, Y. (2024). The effectiveness of the Jolly Phonics method on letter recognition ability in 5-year-old children through letter card media. Jurnal Impresi Indonesia, 3(2), 176– 183. https://doi.org/10.58344/jii.v3i2.4640

McNeill, B. C., Gillon, G., & Gath, M. E. (2023). The relationship between early spelling and decoding. Language, Speech, and Hearing Services in Schools, 54(3), 981– 995. https://doi.org/10.1044/2023_LSHSS-22-00161

Mesmer, H. A. E., & Griffith, P. L. (2023). Teaching phonics in early childhood literacy. The Reading Teacher, 76(4), 451–460. https://doi.org/10.1002/trtr.2165

Moats, L. C. (2020). Speech to print: Language essentials for teachers (3rd ed.). Paul H. Brookes Publishing.

National Reading Panel. (2000). Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction (NIH Publication No. 00-4754). National Institute of Child Health and Human Development.

Nkurunziza, S. (2024). The role of phonological awareness in early reading development. European Journal of Linguistics, 3(3), 15– 26. https://doi.org/10.47941/ejl.2051

O'Brien, B. A., Seward, R., & Zhang, D. (2022). Multisensory interactive digital text for English phonics instruction with bilingual beginning readers. Education Sciences, 12(11), 750. https://doi.org/10.3390/educsci12110750

Odegard, T. N., Ring, J., & Smith, S. (2021). The effects of kinesthetic and tactile strategies in phonics instruction for early readers. Journal of Learning Disabilities, 54(3), 180–191. https://doi.org/10.1177/0022219420974579

OECD. (2023). PISA 2022 results (Volume I): The state of learning and equity in education. OECD Publishing.

Ouellette, G., & Sénéchal, M. (2021). Invented spelling in kindergarten as a predictor of reading and spelling in Grade 1: A new pathways model. Journal of Educational Psychology, 113(2), 241–256. https://doi.org/10.1037/edu0000478

Paivio, A. (2023). Mental representations: A dual coding approach. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195066661.001.0001

Park, S. P., & Piasta, S. B. (2023). Alphabet learning and the uppercase facilitation effect. Journal of Educational Psychology, 115(4), 512–525.

Patel, P., Torppa, M., Aro, M., Richardson, U., & Lyytinen, H. (2022). Assessing the effectiveness of a game-based phonics intervention for first and second-grade English language learners in India. Journal of Computer Assisted Learning, 38(1), 76–89. https://doi.org/10.1111/jcal.12592

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Piasta, S. B., & Wagner, R. K. (2021). Developing early literacy skills: A meta-analysis of alphabet learning and instruction. Reading Research Quarterly, 45(1), 8– 38. https://doi.org/10.1598/RRQ.45.1.2

Piasta, S. B. (2023). Alphabet learning and instruction: Case form considerations in early childhood literacy. Early Childhood Research Quarterly, 62, 110–121. https://doi.org/10.1016/j.ecresq.2022.08.004

Piasta, S. B., Logan, J. A. R., Farley, K. S., Strang, T. M., & Justice, L. M. (2023). Profiles and predictors of children's growth in alphabet knowledge. Journal of Education for Students Placed at Risk, 27(1), 1–26. https://doi.org/10.1080/10824669.2021.1871617

Piasta, S. B., Park, S., Justice, L. M., & O'Connell, A. (2021). Early literacy growth of children in targeted vs. universal early childhood education classrooms. Early Childhood Research Quarterly, 54, 253–263. https://doi.org/10.1016/j.ecresq.2020.09.009

Porter, T. E. (2025). Pacing vs. proficiency: The institutional squeeze on foundational phonics mastery in early elementary curricula. Educational Policy Analysis Archives, 33(4), 45-61.

Potier-Watkins, C., & Dehaene, S. (2023). Can a tablet game that boosts kindergarten phonics advance 1st-grade reading? The Journal of Experimental Education, 92(2), 32–55. https://doi.org/10.1080/00220973.2023.2173129

Ready, D. D., & Wright, M. S. (2021). Socioeconomic and demographic variations in early reading readiness: A multi-level schema analysis. Educational Evaluation and Policy Analysis, 43(2), 185–204.

Reutzel, D. R. (2022). Localizing early literacy intervention materials: Translating diagnostic data into actionable instructional designs. The Reading Teacher, 75(5), 591–604.

Reyes, M. L., & Santos, J. P. (2021). Impact of structured literacy interventions on early reading proficiency among elementary learners. Journal of Educational Research and Practice, 11(1), 112–128. https://doi.org/10.5590/JERAP.2021.11.1.08

Rice, M., Erbeli, F., Thompson, C. G., Sallese, M. R., & Fogarty, M. (2022). Phonemic awareness: A meta-analysis for planning effective instruction. Reading Research Quarterly, 57(4), 1259–1289. https://doi.org/10.1002/rrq.473

Riska, A. M. (2024). Peningkatan kemampuan mengenal huruf konsonan melalui metode fonik pada anak usia 5–6 tahun. Jurnal Riset dan Inovasi Pembelajaran, 4(2), 949– 963. https://doi.org/10.51574/jrip.v4i2.1919

Roque, R. O., & Muldong, R. M. U. (2026). Enhancing early literacy: The impact of phonics instruction on Grade 1 learners transitioning from non-English kindergarten programs. Asian Research Journal of Education, 3(2), 112–128. https://doi.org/10.66206/eduheart.2026.325

Sandelowski, M. (2000). Whatever happened to qualitative description? Research in Nursing & Health, 23(4), 334–340. https://doi.org/10.1002/1098-240X(200008)23:4

Sari, E. M., Yudin, J., & Muhria, L. (2024). Penggunaan metode fonik berbantuan Fuzzle dalam meningkatkan keterampilan membaca permulaan siswa. Silampari Bisa, 7(2), 116–133. https://doi.org/10.31540/silamparibisa.v7i2.3266

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2023). Research methods for business students (9th ed.). Pearson.

Savarinathan, J., & Abdul Karim, A. B. (2025). Enhancing phonemic awareness and letter-sound correspondence in 5-year-old children through interactive smartboard games: Assessing the impact of technology-enhanced phonics instruction. International Journal of Research and Innovation in Social Science (IJRISS), 9(3) 2600–2608. https://dx.doi.org/10.47772/IJRISS.2025.90300203

Schatschneider, C., & Wagner, R. K. (2023). Auditory architecture and phoneme manipulation: Structural pathways to early literacy proficiency. Reading Research Quarterly, 58(1), 89–106.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

SEAMEO & UNICEF. (2024). SEA-PLM 2024 Main Regional Report: Student Learning in Primary Education. Southeast Asian Ministers of Education Organization (SEAMEO) and United Nations Children's Fund (UNICEF).

Seidenberg, M. S. (2020). Connectionist models of reading: Progress, constraints, and expanding horizons. Language, Cognition and Neuroscience, 35(9), 1104–1121.

Sénéchal, M., & LeFevre, J. (2023). Home literacy environment and children's reading development. Journal of Educational Psychology, 115(3), 345– 360. https://doi.org/10.1037/edu0000789

Shaywitz, S., & Shaywitz, B. (2020). Overcoming dyslexia (2nd ed.). Alfred A. Knopf.

Solihin, L. (2021). Foundational literacy in Southeast Asia: Challenges and Opportunities for Regional Development. SEAMEO Publishing.

Sucena, A., Garrido, C., Marques, C., & Lousada, M. (2023). Early predictors of reading success in first grade. Frontiers in Psychology, 14, Article 1140823. https://doi.org/10.3389/fpsyg.2023.1140823

Suprapto, N., Suryanti, S., & Ling, L. Y. (2024). Difficulty of visual recognition: Identifying the direction confusion of reading letters in young children. International Journal of Education in Mathematics, Science and Technology, 12(2), 334– 344. https://doi.org/10.46328/ijemst.3888

Taylor, R., & Francis, M. (2025). Decoding the Literacy Crisis: Post-pandemic Shifts in Early Childhood Education. Educational Review Quarterly.

UNESCO. (2023). The State of Global Education: Monitoring Literacy and Learning Outcomes. UNESCO Publishing.

Vadasy, P. F., & Sanders, E. A. (2021). Introducing grapheme-phoneme correspondences (GPCs): Exploring rate and complexity in phonics instruction for kindergarteners with limited literacy skills. Reading and Writing, 34(1), 109– 138. https://doi.org/10.1007/s11145-020-10064-y

van der Weijden, F. A., van den Boer, M., Zijlstra, B. J. H., & de Jong, P. F. (2024). Implementation takes time: Reduction of literacy problems in schools by implementing an early-literacy intervention. Journal of Research on Educational Effectiveness, 1–33. https://doi.org/10.1080/19345747.2024.2384365

Vartanian, T. P. (2021). Secondary data analysis (2nd ed.). Oxford University Press.

Vaughn, S., & Fletcher, J. M. (2022). Designing multi-tiered reading interventions: Actionable scaffolding routines for emergent readers. Exceptional Children, 88(4), 365–382.

Vazeux, M., Doignon-Camus, N., Bosse, M.-L., Mahe, G., Gup, T., & Zagar, D. (2020). Syllable-first rather than letter-first to improve phonemic awareness. Scientific Reports. https://doi.org/10.1038/s41598-020-79240-y

Vinter, A., Bard, P., Lukowski-Duplessy, H., & Poulin-Charronnat, B. (2023). Learning to name uppercase and lowercase letters in preschoolers and kindergarteners. Early Education and Development, 35(7), 1570–1590. https://doi.org/10.1080/10409289.2023.2252706

Visagas, R. M., & Buensuceso, D. B. (2025). The use of the Jolly Phonics strategy enhance students' English reading proficiency and learning motivation. Psychology and Education: A Multidisciplinary Journal, 37(4), 407–416. https://doi.org/10.70838/pemj.370409

Wardana, I. K., Astuti, P. S., & Sukanadi, N. L. (2022). Examining the effect of phonological awareness instruction on EFL learners' pronunciation and motivation. Erudita: Journal of English Language Teaching, 2(2), 129–147. https://doi.org/10.28918/erudita.v2i2.6234

World Bank. (2022). The State of Global Learning Poverty: 2022 Update. World Bank Group.

Yadav, S. (2022). Validation of qualitative research tools: Structural approaches to interview guide development. Journal of Educational Inquiry, 18(2), 45–59.

© 2026 Advancing SDG Impact. All rights reserved.

JASDG
JOURNAL FOR THE ADVANCEMENT OF SUSTAINABLE DEVELOPMENT GOALS
AN INTERNATIONAL, PEER-REVIEWED, OPEN ACCESS JOURNAL
www.jasdg.com
Volume 1 Issue 4 Pages 4828-4887
ISSN: 3155-7546 (Online)
DOI: 10.5281/zenodo.24363767

Yeong, M., Lee, J., & Han, S. (2023). Deductive alignment matrices for constructing semi-structured interview guides. International Journal of Qualitative Methods, 22, 1– 12. https://doi.org/10.1177/16094069231154789

Zhang, D., & Nation, K. (2024). Mapping the interference: Auditory training, foreign speech sounds, and phonics development in multi-linguistic environments. Language Learning, 74(2), 312-335.

Zhang, D., & Nation, P. (2024). Vocabulary and phonics instruction in EFL reading development. System, 118, 103– 115. https://doi.org/10.1016/j.system.2024.103115

© 2026 Advancing SDG Impact. All rights reserved.