SOUND FOUNDATIONS: STRENGTHENING READING DEVELOPMENT THROUGH PHONOLOGICAL AWARENESS AND PHONICS INTEGRATION

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Abstract
Phonological awareness and phonics are critical components of early literacy development, serving as foundational skills that support decoding and reading comprehension. This manuscript explores the integration of phonological awareness and phonics through explicit, systematic instruction. It highlights the importance of transitioning students from recognizing and manipulating sounds to connecting these sounds with written symbols. Using evidence-based practices, educators can effectively address diverse student needs, ensuring all learners build a strong foundation for reading. Practical applications, such as tailored lessons and activities, are provided to guide educators in fostering successful literacy outcomes.

Keywords: assessment, instruction, literacy, phonological awareness, phonics

Phonological awareness—the ability to recognize and manipulate sounds in spoken language—serves as the foundation for phonics, which links sounds to written symbols. Together, these skills play a vital role in reading development, supporting decoding and comprehension. The importance of phonological awareness to early literacy development continues to be an area of intensive research. It is considered one of the most valid predictors of reading ability lasting through adulthood (Seidenberg et al., 2020; Hulme et al., 2002; Ouellette & Haley, 2011).

Despite the importance of these skills, many struggling readers lack sufficient phonological awareness and phonics instruction. Without explicit teaching, students face barriers that impede their literacy progress. Explicit, systematic instruction in these areas is essential to improving reading outcomes. Research highlights that phoneme-level awareness is most important to reading development as phonemes represent the smallest unit of sounds (Ouellette & Haley, 2011). When combined with knowledge of the alphabet, young children learn to connect graphemes and phonemes into spoken and written words (International Literacy Association, 2019, 2020). The purpose of this manuscript is to provide educators with evidence-based practices for integrating phonological awareness and phonics instruction to support early literacy development. By emphasizing the systematic and explicit teaching of these foundational skills, the article aims to

address the diverse needs of learners, offering practical applications and assessment tools to bridge gaps in reading proficiency and foster successful literacy outcomes for all students.

Understanding Phonological Awareness and Phonics

Ms. Gimino, an early elementary teacher, recently began participating in a state-wide professional development initiative focused on literacy and reading instruction. As part of the program, she attended a workshop that emphasized the importance of foundational reading skills, including phonological awareness and phonics. While Ms. Gimino is passionate about improving her students' reading outcomes, she struggles to grasp the differences between the many terms used in the training. Words like "phoneme," "onset-rime," and "grapheme" feel overwhelming, leaving her uncertain about how they connect to her students' ability to read and comprehend text effectively. She wonders how these abstract concepts translate to concrete classroom activities and how they impact her students' long-term literacy achievement.

Phonological awareness is a broad term that encompasses the ability to detect and manipulate sounds at various linguistic levels, including word awareness, syllable awareness, onset-rime awareness, and phoneme awareness. These skills are often described as existing along a continuum of complexity, beginning with larger, more concrete units like rhyming and sentence segmentation before advancing to more refined skills like phoneme manipulation (Chard & Dickson, 1999). For instance, word awareness involves recognizing individual words within sentences, while syllable awareness focuses on identifying the parts of words. Onset-rime awareness allows learners to distinguish between initial sounds (onsets) and the remaining parts of syllables (rimes), ultimately culminating in phoneme awareness, the ability to identify and manipulate individual sounds in words (International Literacy Association, 2020).

Phonemic awareness is a subset of phonological awareness and specifically refers to the ability to focus on and manipulate individual sounds, or phonemes, in spoken words (Hulme et al., 2002). While phonological awareness encompasses a broader range of sound manipulation skills, such as recognizing syllables or rhymes, phonemic awareness targets the smallest units of sound, which are critical for decoding and spelling (Chard & Dickson, 1999). For example, segmenting a word like "cat" into its individual phonemes (/k/, /a/, /t/) requires phonemic awareness, whereas clapping out the syllables in "table" involves phonological awareness at a broader level.

Phonics, on the other hand, builds on phonological awareness by teaching the relationship between phonemes (sounds) and graphemes (letters) (Tompkins & Rodgers, 2020). This instruction enables students to decode written text, which is critical for developing fluent reading skills. Research underscores the importance of phonological awareness as the foundation upon which phonics instruction is built, with phoneme-level tasks being particularly predictive of future reading success (Hulme et al., 2002; Ouellette & Haley, 2011). For example, students who can manipulate phonemes are better equipped to map those sounds to letters, thereby facilitating decoding and comprehension (Seidenberg et al., 2020).

Understanding the interplay between these components is vital. Phonological awareness provides the groundwork for phonics, allowing educators to scaffold learning effectively. By starting with auditory recognition of sounds and gradually introducing written symbols, students can bridge the gap between spoken and written language. This connection is especially important for struggling readers, as explicit, systematic instruction in these foundational skills has been shown to significantly enhance literacy outcomes (National Reading Panel, 2000; Ouellette & Haley, 2011).

Assessing Students' Skills

Ms. Gimino's kindergarten classroom is filled with students at varying levels of early literacy development. While some are confidently blending phonemes and identifying rhymes, others struggle to recognize letter-sound correspondences or segment simple words. As a new teacher, Ms. Gimino feels overwhelmed trying to pinpoint each

student's strengths and areas of need. She wonders how to use assessments effectively to gain insights that will guide her instruction and support every learner in her classroom.

Accurately assessing phonological awareness and phonics skills is crucial for identifying students' strengths and areas of need. Unveiling this information is a prerequisite for targeted instruction, as it allows educators to design interventions that directly address foundational literacy gaps, enabling all students to progress in their reading development (Kilpatrick, 2015; Fletcher et al., 2018). These assessments guide targeted instruction and inform decisions about interventions. As literacy research evolves, assessment tools continue to be refined, ensuring more precise identification of students' needs. Additionally, policy updates emphasize the importance of early screening and intervention, equipping educators with better resources to support diverse learners.

Identifying Students' Strengths and Areas of Need

Phonological awareness can be assessed through tools that measure students' ability to detect and manipulate sounds (see Table 1). Effective assessments not only identify areas where students excel but also illuminate specific gaps that may impede literacy development. These gaps might manifest in difficulty blending phonemes, identifying rhymes, or segmenting words into individual sounds. Recognizing these areas allows educators to create targeted interventions that address foundational skills essential for reading success (Kilpatrick, 2015). In Kansas, the Kansas State Department of Education (KSDE) mandates the use of state-approved dyslexia screeners to help identify phonological and phonemic awareness skills, decoding abilities, and other critical literacy components. These screeners provide educators with essential data to pinpoint student strengths and areas of need. This foundational understanding enables teachers to design interventions that are both strategic and responsive to individual learning profiles, supporting more effective and targeted literacy instruction (KSDE, 2023).

Common assessments include the Phonological Awareness Screening Test (PAST), which evaluates skills such as rhyming, blending, and segmenting (Kilpatrick, 2015). Another widely used tool is Acadience Reading (formerly known as DIBELS), which offers subtests like Phoneme Segmentation Fluency and Initial Sound Fluency (Acadience Learning, 2020). Additionally, the Heggerty Phonemic Awareness assessments provide a structured way to measure skills like phoneme isolation, blending, and deletion (Heggerty, 2021). These assessments provide a clear picture of students' abilities to work with sounds in spoken language.

Table 1.

Assessment Tools for Phonological Awareness and Phonics

Assessment Tool	Focus Area	Skills Assessed
Quick Phonics Screener (QPS)	Phonics, decoding, letter-sound knowledge	Letter-sound correspondences, single and multisyllabic decoding
Phonological Awareness Screening Test (PAST)	Phonological awareness	Rhyming, blending, segmenting
Acadience Reading	Phonological awareness, phonics	Initial sound fluency, phoneme segmentation, decoding
Heggerty Letter Identification and Sound Assessment	Letter identification, sound identification	Letter recognition, letter sound knowledge, automaticity

Assessment Tool	Focus Area	Skills Assessed
LETRS Phonics and Word Reading Survey	Phonics decoding, word recognition	Letter naming, decoding patterns
Informal Reading Inventories (e.g. Jennings Informal Reading Inventory[1], Qualitative Reading Inventory; QRI-VII)	Reading comprehension, word recognition	Word recognition, decoding, fluency, comprehension
KSDE-Approved Dyslexia Screeners[2]	Phonological awareness, decoding	Rapid naming, phoneme segmentation, letter-sound fluency
Comprehensive Test of Phonological Processing (CTOPP-2)[3]	Phonological processing	Phonological memory, phonemic awareness, rapid naming

Phonics assessments focus on evaluating students' decoding and sound-letter knowledge (see Table 1). Tools such as the Quick Phonics Screener (QPS; Hasbrouck, 2006) and the Qualitative Reading Inventory (QRI) assess skills like letter-sound correspondences, decoding ability, and word recognition (Leslie & Caldwell, 2016). The LETRS Phonics and Word Reading Survey is another valuable tool for diagnosing gaps in word recognition and phonics skills, including letter naming and advanced decoding patterns (Moats & Tolman, 2019). These tools are instrumental in pinpointing gaps that may hinder reading development and identifying students who require additional support.

Building on these findings, one effective method is the use of diagnostic teaching, where educators adapt their methods based on immediate observations and assessment results. For example, if a student demonstrates proficiency in phoneme segmentation but struggles with letter-sound correspondences, instruction might focus on activities that integrate sound and symbol recognition (Heggerty, 2021). Frequent progress monitoring ensures that adjustments can be made promptly to keep instruction aligned with the student's development.

Strategies for Meeting Diverse Classroom Needs

Ms. Gimino realizes that the diversity of student needs in her classroom makes implementing effective differentiated instruction a challenging task. However, she begins to explore structured strategies that align instruction with assessment data and target specific areas of need.

Strategies include station-based learning, small-group instruction, peer-assisted learning, and Universal Design for Learning (UDL). Station-based learning provides a structured approach where students rotate through targeted literacy activities designed to reinforce phonemic awareness and bridge into phonics instruction. This approach ensures that students engage in hands-on, differentiated practice while receiving support tailored to their skill level (Puzio et al., 2020). For instance, one station may focus on phoneme segmentation, where students use Elkonin boxes to

[1] Jennings, J. H., Caldwell, J. A., & Lerner, J. W. (2017). *Jennings informal reading inventory* (4th ed.). Pearson

[2] Kansas State Department of Education (KSDE). (2023). *Approved dyslexia screening assessments.* https://www.ksde.org

[3] Wagner, R. K., Torgesen, J. K., Rashotte, C. A., & Pearson, N. A. (2013). *Comprehensive test of phonological processing (2nd ed.).* Pro-Ed.

break words into individual sounds, strengthening their ability to manipulate phonemes orally. Another station might incorporate letter tiles or magnetic letters, allowing students to match phonemes with graphemes, reinforcing the connection between spoken sounds and printed letters (Ehri & Roberts, 2006). A teacher-led station can provide direct instruction in blending and decoding, guiding students through word-building exercises that transition from oral phonemic awareness activities to phonics-based reading tasks (Treiman, 2018). Additionally, a technology-enhanced station may integrate adaptive literacy software, such as Lexia Core5, which provides immediate feedback on phoneme manipulation and decoding skills, ensuring individualized practice based on each student's needs (Fletcher et al., 2018).

Peer-Assisted Learning Strategies (PALS) involve pairing students to work collaboratively on literacy tasks. PALS can strengthen phonemic awareness and early decoding skills by providing structured opportunities for students to engage in phoneme segmentation, blending, and letter-sound correspondence activities (McMaster & Fuchs, 2015). For example, structured peer activities, such as paired reading with a focus on phoneme manipulation or word-building exercises, allow students to reinforce their skills while supporting one another. UDL principles emphasize creating flexible learning environments that accommodate a wide range of learners. By offering multiple means of representation, engagement, and expression, UDL allows students to access content in ways that suit their individual needs (CAST, 2018). Examples include integrating visual aids, auditory supports, and hands-on materials, which can enhance engagement and comprehension for all students. Technology-based interventions also play a key role in addressing diverse needs. Adaptive literacy software and digital tools provide individualized practice and immediate feedback, making them valuable for supplementing classroom instruction. Programs like Lexia Core5 adapt to students' skill levels, ensuring targeted practice in areas of need (Fletcher et al., 2018).

Instructional Strategies for Bridging Phonological Awareness to Phonics

Ms. Gimino reviewed her students' assessment data and considered how to guide their transition from phonological awareness to phonics. Recognizing the diverse needs in her classroom, she planned lessons that utilized explicit instruction to introduce sound manipulation and small-group activities tailored to specific skills like blending and sound-symbol connections. By combining effective lesson planning with targeted strategies, she aimed to support all her students in building a strong foundation for reading.

Effective reading instruction requires thoughtful integration of phonological awareness into phonics lessons. Transitioning from phonological awareness to phonics involves a deliberate progression from recognizing and manipulating sounds to connecting those sounds with written symbols (Adams, 1990; National Reading Panel, 2000). Evidence-based and practical applications can support educators in guiding students from oral sound work to decoding and fluent reading. For example, when teaching the vowel teams "ea" and "ee," focus on hearing and manipulating the sounds of words like "tree," "see," "bean," and "team" before mapping the sounds to their corresponding letters. This reinforces auditory processing before linking it to visual symbols (Snow et al., 1998).

Effective Lesson Planning

Beginning lessons within an explicit instruction framework is critical to successfully bridging phonological awareness to phonics. Lessons should start with activities focused on hearing and manipulating sounds, such as identifying rhymes or segmenting phonemes, before progressing to connecting these sounds to written symbols (Carnine et al., 2015). For instance, students might practice blending the sounds /s/, /ee/, and /m/ to form "seem" and then identify the vowel team "ee." A structured approach, like the one below, ensures that students receive clear explanations, modeling, guided practice, and opportunities for independent application (Archer & Hughes, 2011).

1. **Stating the Objective.** Clearly define the goal of the lesson in student-friendly language while emphasizing the relevance. For example, "Today, we will learn to read and spell words with the vowel teams 'ea' and 'ee.' Knowing these vowel teams will help us read many words we see in books and spell words correctly when we write."

2. **Phonological Awareness Practice.** Engage students in sound-based activities, such as identifying the long /ee/ sound in spoken words. For example, say, "Listen carefully. Do you hear the /ee/ sound in 'tree' or 'cat'?"

3. **Reviewing Previously Learned Content.** Review prior phonics patterns, such as short vowels. For instance, ask students to identify the vowel sound in "bed" and compare it to the sound in "bead."

4. **Direct Instruction: Explicitly Modeling the Decoding Process.** Explicitly teach the new concept, such as explaining that "ea" and "ee" both make the long /ee/ sound. Use visual aids like word cards with examples (e.g., "tree," "beam") and model how to decode them. Teachers can also model how to decode words with "ee" and "ea" using a think-aloud strategy. For example, write the word "see" on the board and say: "I see two vowels together—'ee.' I remember that 'ee' makes the long /ee/ sound, like in 'tree.' I'll say the sounds: /s/ - /ee/. Now, I'll blend them together: see." Then, model with "seat." "I see the vowels 'ea.' I know that 'ea' can make the long /ee/ sound. Let me check—/s/ - /ee/ - /t/, seat! It sounds right, so 'ea' must be saying /ee/ in this word." This step ensures students hear the blending process and see how to apply decoding strategies when encountering new words (Archer & Hughes, 2011).

5. **Guided Practice.** Provide structured opportunities for students to practice decoding words with "ea" and "ee." Display words like "see," "team," "bean," and "green" on word cards. Call on students to: (a) Point to the vowel team in each word; (b) say the sound it makes; (c) blend the sounds together to read the whole word; (d) identify whether the vowel team "ea" or "ee" is used. During this step, use scaffolding by prompting students who struggle, such as guiding them to say each phoneme before blending.

6. **Dictation.** Dictate sentences containing "ea" and "ee" words, such as "I see a green tree" or "The team won the game." This activity helps reinforce sound-letter mapping and spelling.

7. **Connected Text.** Incorporate decodable books or passages that include words with the target vowel teams. For example, read a short story about a "team" on a "green" field, encouraging students to highlight or underline "ea" and "ee" words as they read.

This lesson plan references the LETRS General Phonics Lesson Plan framework[4], with modifications to focus on specific vowel teams and integration of phonological awareness activities.

[4] LETRS (Language Essentials for Teachers of Reading and Spelling) is a professional development program designed to equip educators with knowledge of the science of reading, focusing on phonemic awareness, phonics, fluency, vocabulary, and comprehension (Moats & Tolman, 2019).

Teachers can adapt these steps to align with LETRS guidelines while emphasizing hands-on practice and connected text reading.

Explicit modeling and guided practice ensure that students understand the connections being made. By systematically demonstrating the decoding process and providing structured opportunities for students to apply these skills, educators can help them build confidence in recognizing and reading vowel teams (Archer & Hughes, 2011). Educators can also leverage generative artificial intelligence (AI) tools to enhance their lesson planning by generating additional examples of sound manipulation tasks or providing differentiated activities tailored to students' needs. For example, AI platforms can create lists of words with specific phonics patterns, such as "ee" or "ea," or develop interactive digital sound-matching games, which engage students in meaningful practice while reinforcing core concepts (McNamara et al., 2004).

Practical Activities for Bridging Skills

Incorporating engaging and structured activities can enhance the transition from phonological awareness to phonics. Below are practical classroom strategies divided into two key areas:

Phoneme Segmentation and Blending to Introduce Decoding

1. **Segmenting Words with Manipulatives**: Use counters, chips, or blocks to represent sounds in words. For example, students can push a chip forward for each sound they hear in "ship" (/sh/, /i/, /p/) and then blend the sounds to read the word (Adams, 1990).
2. **Blending Drills**: Provide students with spoken phonemes, such as /k/, /a/, /t/, and ask them to blend the sounds into "cat." This can be done with visual support like letter cards or a whiteboard for mapping sounds to letters (Ehri, 2005).
3. **Elkonin Boxes**: Students segment sounds into boxes using manipulatives and then write the corresponding letters in each box. This technique bridges phoneme segmentation with letter-sound mapping (National Reading Panel, 2000).

Sound Manipulation Games Tied to Phonics Patterns

1. **Phoneme Substitution Game**: Challenge students to change one sound in a word to create a new word. For example, substitute the /m/ in "mat" with /s/ to form "sat." This activity can reinforce the concept of phoneme manipulation while introducing new phonics patterns (Snow et al., 1998).
2. **Sound Matching Relay**: Create a game where students sort word cards by phonics patterns, such as vowel teams "ea" and "ee." For instance, students can place "tree" and "green" in one group and "team" and "bean" in another (Carnine et al., 2015).
3. **Interactive Digital Tools**: Use AI-powered games or apps to provide immediate feedback on phonics practice. For example, apps like Starfall or Teach Your Monster to Read offer interactive phonics games where students match sounds to letters or words in a gamified environment.

Multi-Sensory Activities for Phonics Instruction

Multi-sensory approaches engage multiple senses to enhance learning, such as using tactile, auditory, and visual elements in phonics instruction. While these strategies can be effective for some students, Earle and Sayeski (2019) caution that their effectiveness depends on the quality of implementation and should be paired with explicit, systematic instruction. Below are examples of multi-sensory activities:

1. **Sand Writing:** Students write letters or words in a tray of sand while saying the sounds aloud, reinforcing the connection between phonemes and graphemes.
2. **Magnetic Letters:** Use magnetic letters to build words on a board. Students manipulate the letters while pronouncing the sounds.
3. **Sky Writing:** Have students use their fingers to trace letters in the air while saying the corresponding sounds.
4. **Play-Doh Phonics:** Students shape letters or words out of Play-Doh and practice saying the associated sounds.
5. **Sound Walk:** Incorporate movement by having students hop, clap, or step for each sound in a word.
6. **Tactile Cards:** Use textured alphabet cards that students can trace with their fingers as they vocalize the sounds.

Additional Activities for Bridging Skills

1. **Onset and Rime Sorting**: Provide students with cards displaying onsets (e.g., "tr") and rimes (e.g., "ee"). Have them mix and match to form real words like "tree" or "free." This activity builds an understanding of word families and phonics patterns (Treiman, 2018).
2. **Word Chain Challenges**: Start with a word like "seat" and ask students to change one letter at a time to form new words, such as "beat" or "meat." This activity emphasizes letter-sound relationships and builds decoding skills (Ehri, 2014).
3. **Phonics Pattern Bingo**: Create Bingo cards featuring words with specific phonics patterns, such as "ea," "ee," or "ai." Call out words or sounds, and have students cover the matching word or pattern on their cards. This reinforces phonics patterns in an engaging way (Carnine et al., 2015).

These activities offer practical ways to bridge foundational phonological skills with phonics instruction, ensuring students develop the decoding skills needed for fluent reading.

As the weeks passed, Ms. Gimino saw noticeable growth in her students' ability to decode words and apply their phonics knowledge to reading and writing. By incorporating station-based learning and small-group instruction, she was able to provide targeted support, ensuring that students received the instruction they needed. Students who once struggled to blend sounds were now using explicit decoding strategies, such as segmenting phonemes and mapping them to graphemes, to read unfamiliar words with greater confidence. During whole-group lessons, she continued to emphasize sound manipulation activities before introducing new letter-sound relationships, reinforcing phonemic awareness as the foundation for phonics instruction. One student, who had previously relied on guessing words, began applying word chaining exercises to recognize spelling patterns, a shift that reinforced the importance of systematic, scaffolded instruction. Through careful planning and intentional teaching, Ms. Gimino realized that bridging phonological awareness and phonics was not just about teaching skills—it was about creating structured, supportive opportunities for all students to build the confidence and tools they needed to become successful readers.

Conclusion

Phonological awareness and phonics form the backbone of reading development, enabling students to decode and comprehend text effectively. By leveraging assessment data and implementing explicit, systematic instruction, educators can bridge gaps in foundational skills and support diverse learners. Integrating sound manipulation with phonics instruction ensures a deliberate progression from auditory recognition to written language comprehension. With targeted strategies and practical activities, educators can empower all students to achieve literacy success, laying the groundwork for lifelong reading proficiency.

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