Teaching Phonemic Awareness and Word Reading Skills: Focusing on Explicit and Systematic Approaches

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Abstract

For the purpose of this article within this special issue on Structured Literacy™, we were asked to address the code-focused skills of phonemic awareness and word reading. Findings from research studies converge to show that explicit and systematic instruction helps most students understand how speech sounds, or phonemes, map to letters and patterns within words, which can greatly reduce the prevalence of reading problems (e.g., Brady, 2011; Lonigan & Shanahan, 2009; National Reading Panel Report (NRP), 2000; Wanzek et al., 2013). However, challenges learning these skills are an indication of many reading difficulties, which limit students' understanding of grade-level academic material. Most (67%) of fourth grade students with disabilities read below a basic level (National Assessment of Educational Progress (NAEP, 2015).

The responsibility for providing early interventions to prevent reading difficulties initially rests with general educators, but may gradually involve dyslexia specialists, special educators, and other service providers, such as speech and language pathologists. Since 2004, under the Individuals with Disabilities Act and continuing under the Every Student Succeeds Act (ESSA, 2015), schools are expected to monitor students' risk of reading problems on universal screeners, provide evidence-based early interventions, track student progress, and evaluate students with the most severe reading needs for special education and/or dyslexia services. The terms Response to Intervention (RTI) or Multi-Tiered Systems of Support (MTSS) are used to describe this process of providing a strong core, or Tier 1 instruction, followed by increasingly intensive tiers of intervention guided by ongoing student data (e.g., Gersten et al. 2009).

In our work training teachers to deliver reading instruction and intensive interventions, we rely on a framework known as *The Simple View of Reading* (Gough & Tunmer, 1986) to explain that reading is the product of a) code-focused skills such as phonemic awareness and decoding, and b) meaning-focused skills such as vocabulary and comprehension. Both of these sets of skills are part of the International Dyslexia Association's recently trademarked term Structured Literacy ™ (and are emphasized in IDA's Knowledge and Practice Standards; https://dyslexiaida.org/knowledge-and-practices). Structured Literacy ™ instructional approaches are consistent with the broader research base for explicitly and systematically teaching the structure of language across the domains of listening, speaking, reading, and writing (e.g., NRP, 2000). The approach is also consistent with the broader research base on effective instructional strategies for all students, but are particularly critical for students with or at-risk for reading problems; this research supports the importance of teachers carefully selecting and sequencing instructional targets, explicitly modeling skills, providing immediate supportive and

corrective feedback, ensuring students have multiple opportunities to practice to mastery, and encouraging student engagement (e.g., Carnine, Silbert, Kame'enui, Slocum & Travers, 2017).

Code-focused Skill Instructional Sequence

Also known as phonological sensitivity, phonological awareness is the global awareness of the sounds in speech, including the words in a sentence, including the syllables within a word, and what is known as the onset and the rime. The onset is the first sound, and the rime, is the remainder of a word. For example, in the word "rime", the onset is /r/ and the rime is /ime/. Phonological awareness is the precursor to phonemic awareness, or the awareness of each individual sound within a word. More advanced levels of phonemic awareness include manipulating sounds which support higher levels of phonics and spelling word and syllable patterns (Kilpatrick, 2015). Although this type of advanced instruction supports accurate and fluent reading, we focus more on the initial levels of phonemic awareness instruction to support early decoding.

Mapping Phonemic Awareness to the Alphabetic Principle

Although there are many different skills within phonemic awareness that require explicit teaching, *blending and segmenting at the phoneme level* are the most important skills as they lead directly to decoding (e.g., sounding out simple words) and encoding (e.g., spelling simple words). We illustrate the general progression of these skills in Figure 1, showing how students move from a basic level of understanding that spoken words are made up of speech sounds to connecting that idea to print by sounding out printed words and spelling (i.e., alphabetic principle). The most basic level within Figure 1 focuses on the first sound of a word. At this level, the teacher provides the student with practice blending simple words (e.g., mat). The teacher says the first sound and then the rest of the word (i.e., rime), and the student blends these

together into a single word. For example, the teacher would say, /mmm/ /at/ and the student would say *mat*. When teaching students to segment at this level, the teacher says the entire word and the student says just the first sound. For example, the teacher asks, "What's the first sound in *mat*?" and the student says /mmm/.

(Insert Figure 1 about here)

The next level focuses on all of the individual phonemes within words. At this level, the teacher provides the individual phonemes (e.g., /mmm/ /aaa/ /t/) and then asks the student to blend the sounds to say the word (e.g., *mat*). The final level is to connect the individual phonemes to print. When teaching students to blend with print (i.e., sounding out words), the student sees a simple word like *mat*, says the speech sound represented by each letter, and then blends to read the word. For example, the student would see the word *mat*, say the phonemes for each letter (/mmm/ /aaa/ /t/), and then say the word as a whole, *mat*. When teaching students to segment with print (i.e., spelling), students hear or say a word, segment the individual phonemes in the word, and write the letter that represents each phoneme. For example, the teacher says *mat* and then the student says /mmm/ /aaa/ /t/, writing the letter that represents each sound, *mat*.

Building from the Alphabetic Principle to Develop Phonics and Word Study

When students have progressed through the developmental sequence just described, they are said to have mastered the *alphabetic principle;* they have a solid understanding that words are made up of individual sounds, and sounds are represented by printed letters. They can also blend sounds represented by letters to decode simple words. At this stage students will continue learning the sounds for more letters and letter patterns, as well as irregularly spelled high-frequency words. We illustrate additional key phonics and word study skills in Figure 2.

Although there is no one sequence for teaching phonics skills and irregularly spelled high-frequency words, instruction should be systematic and include cumulative review (NRP, 2000). Teachers should be aware that not all programs support this instruction. The pace and sequence of letter-sound patterns and high-frequency words vary considerably across programs. Although Structured Literacy™ programs provide a systematic, synthetic phonics approach that focuses on mapping individual phonemes and letters, others use a less effective analytic phonics approach involving word families, or onset-rimes. As students learn more letter patterns, the program should shift in sequence to syllable types and reading longer words made up of those syllable types, as well as reading words with prefixes and suffixes. Some programs lack cumulative review, needed by some students, especially those at-risk or with disabilities. Cumulative review ensures students are developing automaticity in reading individual words. A few excellent resources for teachers about how to teach word recognition using a synthetic, or sound-by-sound, approach are written by Brady (2011), Carnine, Silbert, Kame'enui, Slocum, and Travers (2017) and O'Connor (2014).

(Insert Figure 2 about here)

As students begin to read words, they should read these words in meaningful, connected text as soon as possible. Words should be selected that are meaningful to students (i.e., part of their spoken language) and can be combined into sentences. Students can begin reading text very early in the process if text is selected carefully to include practice on word patterns and irregularly spelled high-frequency words (e.g., was) that have been taught. For reasons of brevity and focus, we do not describe reading connected text with fluency, however next steps would be

to help children read passages fluently enough to read with comprehension. Similarly, spelling skills intertwine with reading skills.

Explicit and Systematic Programs for Teaching Phonemic Awareness and Phonics

In this section, we describe resources and several examples of explicit and systematic programs that provide intervention in phonemic awareness and phonics that are consistent with the Structured Literacy™ approach. Table 1 lists web-based resources for teachers that describe explicit and systematic programs and summarize evidence about programs to support students and for teacher training. Two further reviews of the literature evaluate the effects of specific Structured Literacy™ programs that included one or more multisensory component (Al Otaiba, Rouse & Baker, 2018; Ritchey & Goeke, 2006).

(Insert Table 1 about here)

Table 2 provides examples of programs consistent with Structured Literacy™ and key information about each program, such as author(s), areas of literacy addressed by the program, appropriate tier within RTI/MTSS and grade level, as well as the appropriate group size. Three of the programs have been given a "strong" rating by Evidence for ESSA (evidenceforessa.org) and studies on their effectiveness are included in the Institute for Education Science What Works Clearinghouse (WWC; ies.ed.gov/ncee/wwc/). These are *Early Reading Intervention* (Simmons & Kame'enui, 2003; ERI), the *Lindamood Phoneme Sequencing* (Lindamood & Lindamood, 1998; LIPS) program, and the Wilson Reading System (Wilson, 1996). Studies of *Early Interventions in Reading* (Mathes & Torgesen, 2005) did not meet Evidence for ESSA standards but are included in WWC under the name *Enhanced Proactive Reading* with potentially positive findings for English Language Learners (see also Mathes, Denton, Fletcher, Anthony &

Schatschneider, 2005). Table 2 also includes the following Structured Literacy™ programs identified as examples because they are widely used: the *Multisensory Teaching Approach* (Smith, 1987), *Orton-Gillingham* (Orton, 1966), and *Take Flight* (Avrit et al., 2006), although these have not yet have been evaluated in studies meeting Evidence for ESSA or WWC standards. A final example is *Friends on the Block* (FOTB; Allor, Cheatham, & Al Otaiba, 2018), which includes a new series of early reading books and is designed to be a Tier 3 intervention for students with intensive needs, particularly those with intellectual or learning disabilities. Though no studies on FOTB have been considered for inclusion in WWC or Evidence for ESSA, it has recently shown promise for students with the most intensive needs and includes motivational practice activities (Allor, Gifford et al., 2018). Results indicated a statistically significant positive intervention effect with students who experienced severe challenges learning to read. Feasibility was supported by high implementation by teachers and both teachers and parents were enthusiastic about the intervention and expressed a need for it (Allor, Gifford et al., 2018).

(Insert Table 2 about here)

Data-Guided Adaptations to Increase Intensity and Motivate Practice

Even a strong research-based program may require adaptations for some students. The need for adaptations, and the response to adaptations should be guided by progress-monitoring data. Progress monitoring tools, like curriculum bases measures and assessments, allow teachers to track student performance. Hosp, Hosp, and Howell (2016) have written a practical book for teachers about progress monitoring: *The ABC's of CBM*.

Teachers should structure lessons to respond to student individual needs. It is important that teachers provide additional modeling and practice for skills students are struggling to master.

For example, if teachers are using *Early Interventions in Reading* (Mathes & Torgesen, 2005) and observe students who are struggling to blend individual phonemes into a word during the *Oral Blending: Say the Word* activity, then the teacher might add a few more words to the activity for extra practice during a lesson or repeat this activity at another time of the day. A teacher might notice that when blending words a student often leaves off the first sound (e.g., responds *at* instead of *mat*). In this case, the teacher may decide to practice blending with print using words made up of letter-sounds the student knows.

Teachers can use instructional games such as in the FOTB program to incorporate motivating practice. Here are some examples from our FOTB program with specific skills that students may be struggling to master. For example, for a student who has not yet mastered the ability to identify the first sound in a word or to blend the first sound with the rest of the word, a teacher might select a game such as our "Blending Bingo." As shown in Figure 3, this game was designed to provide practice blending the first sound with the rest of the word. This game includes bingo boards with familiar pictures. The teacher has a set of word cards that match the pictures on the bingo boards. She provides systematic support, which is consistent with Structured Literacy™ approaches, pronouncing the first sound of the word (e.g., /fff/), holding that sound if continuous, and then saying the rest of the word (/ish/). Students blend and say the whole word out loud, then find the matching picture on their bingo board. A similar version of Blending Bingo can be played for students who need practice blending at the level of each phoneme. The slight change in the game comes when the teacher pronounces each phoneme in the word (e.g., /fff/ /i/ /sh/) so students blend all sounds of the word together to identify the appropriate picture (e.g., fish). The game can also be easily modified to practice saying the first sound or segmenting a word into individual phonemes.

(Insert Figure 3 about here)

To help students connect blending and segmenting to print, using the synthetic phonics approach, we designed the "I Got It" game. In this game, each student has a board that has a picture and a short sentence (e.g., "*You and I can play"*). One word from the sentence (e.g., *and*) is the focal word, written larger than the other words and separated with each letter contained in a box (see Figure 4). Students take turns drawing letter cards from a pile and identifying the letter sound. If the letter card chosen is also in the focal word on the card, then the player places a bingo marker on that letter. Once the entire word is covered, the student sounds out the entire word. Students can move the bingo markers as they "push and say" the individual sounds. Then they read the sentence. Finally, if more than one student is playing, each student should repeat the sounds in the word and say the word so everyone practices.

(Insert Figure 4 about here)

Taking a Proactive Approach

Teachers who are prepared to use explicit and systematic approaches for early intervention and remediation will help reduce the prevalence of students who are not able to read on grade level within RTI/MTSS implementation. These approaches are also effective to support reading instruction for all students, and for reading interventions for students with dyslexia and other specific reading disabilities. We hope the resources we have provided in this article will be useful both to practitioners and to teacher educators.

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Table 1

Examples of Resources for Teachers about Explicit and Systematic Reading Instruction

Resource	Author or Original Funding Agency	Key Features	Website
Division for Learning Disabilities (DLD) Alerts	Division of Learning Disabilities, Council for Exceptional Children	• Provides explanations and research base for implementing evidence-based interventions.	• https://www.teachingld.org/alerts
Evidence for ESSA and Best Evidence Encyclopedia	Center for Research and Reform in Education at John Hopkins University School of Education	• Provides evidence of a variety of programs in reading and math.	• https://www.evidenceforessa.org/ • https://www.bestevidence.org/
International Dyslexia Association (IDA)	International Dyslexia Association	• Provides Knowledge and Practice Standards (KPS) for teachers. • Provides directions for accreditation programs training dyslexia instructors.	• https://dyslexiaida.org/wp-content/uploads/2015/01/DITC-Handbook.pdf • https://dyslexiaida.org/educator-preparation-program-accreditation/
Intensive Intervention Practice Guides	National Center on Intensive Intervention	• Provides resources for implementing intensive academic or behavioral supports.	• http://nclii.org/intensive-intervention-practice-guides/
Reading Rockets	U.S. Department of Education	• Provides modules to support preparation for the Knowledge and Practice Examination of Effective Reading Instruction (K-PEERI).	• http://www.readingrockets.org/teaching/reading101-course/modules/course-modules
What Works Clearinghouse: Intervention Reports and Practice Guides	Institute of Education Sciences through the Department of Education	• Provides reviews of effectiveness for individual reading programs, and guides for implementing evidence-based academic and behavioral interventions across K-12.	• https://ies.ed.gov/ncee/wwc/ • https://ies.ed.gov/ncee/wwc/PracticeGuides

Table 2.

Examples of Explicit and Systematic Programs for Teaching Phonemic Awareness and Phonics

Program	Author	Areas of Literacy Addressed	Tiers of RTI	Grades/ Ages	Group Size for Instruction
Early Interventions in Reading	Patricia Mathes & Joseph Torgesen	Phonological awareness, Phonics, Alphabetic Principle, Reading comprehension, Fluency, Written Expression	Tier 2/3	1st-3rd	Small group
Early Reading Intervention (ERI)	Deborah Simmons	Phonological Awareness, Phonics	Tier 2	K-1st	2-5 students
Friends on the Block	Jill Allor, Jennifer Cheatham, & Stephanie Al Otaiba	Phonemic Awareness, Alphabetic Principle, Fluency, Vocabulary, Reading comprehension	Tier 3	K-5th	Individual, small group
Fundations Wilson Language Training	Barbara Wilson	Phonemic awareness, Alphabetic Principle, Phonics and Word Recognition, Fluency, Vocabulary, Reading comprehension	Tier 1	K-3rd	Individual, small group
Lindamood Phoneme Sequencing (LiPS)	Patricia Lindamood & Phyllis Lindamood	Phonics and Word Recognition, Comprehension	Tier 3	K-3rd	Individual, small group
Multisensory Teaching Approach (MTA)	Margaret Taylor Smith	Phonological awareness, Phonics, Alphabetic Principle, Reading comprehension, Fluency, Written Expression	Tier 3	Not Reported	Up to 8 students
Take Flight	Scottish Rite Hospital for Children	Phonemic Awareness, Alphabetic Principle, Fluency, Vocabulary, Comprehension	Tier 3	Ages 7 and older	Individual, small group
Wilson Reading System	Barbara Wilson	Phonemic awareness, Alphabetic Principle, Phonics and Word Recognition, Fluency, Vocabulary, Reading comprehension	Tier 2 or Tier 3	2nd and above	Individual, small group