
ReadingHorizons RESEARCH BASE

*Reading Horizons aligns to the
research-based best practices of
effective reading instruction.*

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INTRODUCTION

The Reading Horizons Methodology

The Reading Horizons method delivers engaging, explicit, systematic phonics instruction through a multisensory approach based on Orton-Gillingham principles. Instruction is cumulative and organized in a sequence that enhances learning and simplifies teaching. Each sound of the English language is explicitly taught along with the letter(s) that represent the sound. Five Phonetic Skills are taught to help students recognize short and long vowel patterns in words and syllables. Two Decoding Skills are presented to show students how to decode multisyllabic words.

The multisensory approach used with the Reading Horizons method enhances learning and memory by engaging auditory, visual, and kinesthetic modalities simultaneously during instruction. A unique marking system is employed to draw student attention to the features and patterns of English as well as to give visual cues for pronunciation. Throughout the course of instruction, students are provided with engaging activities for practice and application of the skills learned.

Reading Horizons Discovery™ was designed to teach the Reading Horizons method to students in kindergarten to third grade. *Reading Horizons Elevate™* was designed for students who are ages fourth grade to adult.

Research Alignment

This overview of research outlines the way in which the Reading Horizons method relates to each of the five pillars of effective reading instruction as identified by the National Reading Panel (NRP; National Institute of Child Health and Human Development [NICHD] in 2000) as well as to handwriting, spelling, and multisensory literacy instruction. The overview will conclude with research that provides the rationale for the use of explicit phonics instruction with various types of learners, including emerging readers (kindergarten through third grade), struggling readers (fourth through twelfth grade), adult learners, students with dyslexia, and English Language Learners.

ALIGNMENT TO NATIONAL READING PANEL FINDINGS

Elements of effective reading instruction as reported by the National Reading Panel (NICHD, 2000) are well established in literature. Empirical studies confirm that instruction that builds phonemic awareness, decoding skills, text-reading fluency, vocabulary, and comprehension is the best antidote for reading difficulty (Fletcher, Lyon, Fuchs, & Barnes, 2007; Foorman & Moats, 2004).

Instruction delivered through the Reading Horizons method not only helps prevent reading difficulty by establishing necessary foundational skills for all learners but also provides a remedy for readers who struggle with the task of decoding. Mastery of the concepts taught in Reading Horizons programs empowers students with the ability to successfully decode the great majority of words they encounter in printed text. Instruction in the Reading Horizons method also enhances other areas of reading development.

Phonemic Awareness

Phonemic awareness (PA) is the ability to identify and manipulate phonemes (individual sounds) in spoken words (Liberman, Shankweiler, Fischer, & Carter, 1974) and is one of the best predictors of reading success (Langenberg, 2000; Muter, Hulme, Snowling, & Taylor, 1997; Stuart & Masterson, 1992). Phonemic awareness instruction does not require use of printed words or letters. However, a meta-analysis conducted by Bus and van IJzendoorn (1999) revealed that programs combining graphemes (letters) with

phonemes (sounds) during instruction were more effective than phonemic awareness training alone. Phonemic awareness is necessary for all readers to be successful, although it is only a beginning step in learning to read (NICHD, 2000).

In the Reading Horizons method, phonemic awareness is addressed prior to phonics instruction. Seven areas of phonemic awareness (rhyming, syllable counting, initial sounds, blending, final sounds, medial sounds, and segmentation) are addressed in *Reading Horizons Discovery*. Three areas of phonemic awareness are addressed in *Reading Horizons Elevate*.

The Reading Horizons method provides explicit instruction in the 42 sounds of the English language. As each phoneme (sound) is instructed, the grapheme (letter or letter combination) that represents each sound is explicitly taught, strengthening phonemic awareness and laying the foundation for fluent decoding.

Phonics

Proficient reading is the ability to identify individual words quickly and accurately (Adams, 1990; Ehri, 1998; Perfetti, 1985; Rayner & Pollatsek, 1989; Snow, Burns, & Griffin, 1998). This is sometimes referred to as reading by sight. Mastery of letter-sound correspondences aids in the successful identification of words.

Phonics is a method of instruction that teaches students the relationships between written letters and spoken sounds and guides them in how to use this knowledge to fluently read and spell words.

Prevention and intervention studies support the explicit teaching of patterns and rules for successful decoding and spelling as opposed to whole-word memorization (Berninger, 2000; Berninger et al., 2005; Ehri, 2004; Felton, 1993; Foorman, Francis, Beeler, Winikates, & Fletcher, 1997; Scalon & Vellutino, 1996; Torgeson, 2000; Torgeson, Wagner, & Rashotte, 1997).

Students who are taught to blend sounds to form words learn letter-sound correspondences more quickly, strengthen phonemic awareness, increase automaticity in word reading, and improve spelling and comprehension skills significantly beyond their chronological ages (Johnston & Watson, 2006).

Phonics instruction is most effective when it is explicitly taught and systematically organized in a sequence that moves from simple to complex (NICHD, 2000).

Reading Horizons programs explicitly teach the structures of words in the English language. In a sequential fashion, each of the 42 sounds in our language is taught along with the letter(s) that represents that sound. Students are immediately taught to blend together sounds to read and spell real and nonsense words. Five Phonetic Skills are taught to help students quickly and accurately read and spell words with short and long vowel patterns. Two Decoding Skills provide students with strategies to decode multisyllabic words.

The instruction in the Reading Horizons method is explicit, systematic, and cumulative. Skills taught in the program progress from simple to complex. Students

are given multiple practice opportunities to read and spell words from each lesson, allowing for mastery of the current skill before the next one is introduced. A particular emphasis is placed on transferring skills to connected text through the process of reading decodable and complex sentences, passages, and books.

Fluency

Fluency is defined as the speed of decoding gained as one masters the alphabetic code (Stanovich, 1980). Phonics instruction initiates the development of decoding ability and word reading accuracy, both of which improve a student's ability to recognize words with automaticity. With practice and repeated exposure to print, fluency develops and improves (NICHD, 2000). When fluency is fully developed, accuracy, rate, and expression function well, and attention can be allocated to comprehension (Wolf & Katzner-Cohen, 2001).

Throughout the Reading Horizons program, students are given multiple opportunities to develop reading fluency. As students master the written code of English, they more quickly read and spell a growing number of words. Within each lesson, particular emphasis is placed on transferring skills to connected text through the process of reading and rereading sentences, passages, and books.

Vocabulary

Vocabulary is a storehouse of known meanings used to comprehend and communicate. It has a strong correlation to overall reading comprehension (NICHD, 2000).

Prior to reaching the middle grades, children can understand more words than they can read. In time, vocabulary knowledge increases as more words are learned from reading than

from listening to spoken language (Nagy & Anderson, 1984).

Phonics bridges the gap between spoken words that students know and written words that students may not recognize. The ability to accurately decode words enables students to learn new words they encounter in print. The more students analyze, read, and write the same words, the stronger the memory, and the faster the recognition (Ehri, 2004).

The Reading Horizons reading system not only allows for accuracy in reading and spelling words but also addresses word meaning and usage. Each word that is introduced during direct instruction is used in the context of a sentence, giving teachers the opportunity to address the meaning of each word while increasing students' speaking vocabulary.

As teachers instruct students in the Reading Horizons method, those students will be empowered with the skill to accurately decode known and unknown words they encounter in text, giving them the opportunity to add to their reading and speaking vocabularies. Both *Reading Horizons Discovery* and *Reading Horizons Elevate* interactive software programs have a vocabulary section in which thousands of words are available for students to learn.

Comprehension

Though phonics instruction is necessary for students who are learning to read, teaching phonics is a means to an end. The purpose of phonics instruction is to teach students to recognize words automatically and fluently so they can attend to comprehending the text (Adams, 1990; Stahl, 1992). Essential tools for reading comprehension are general language comprehension skills and accurate, fluent, word-reading skills (Gough, 1996; Torgesen, 1998; Snow et al., 1998).

About 80% of the variance in the reading comprehension scores of first graders can be attributed to the ability to sound out new words. This ability is also a good predictor of reading comprehension skill in fourth grade (Foorman, Francis, Shaywitz, Shaywitz, & Fletcher, 1997; Juel, 1994). Aaron, Joshi, and Williams (1999) found that weak word-reading skills were the primary cause of poor reading comprehension in third grade students. After at-risk readers learn necessary decoding skills, improvements are observed in all reading skills, including passage comprehension (Foorman & Schatschneider, 2003). Reading comprehension is not likely to occur when effort is expended on sounding out each word (Shankweiler et al., 1999). Torgesen (as cited in Hasbrouck, 2010) stated that "There is no comprehension strategy that compensates for difficulty reading words accurately and fluently."

Teachers who teach using the Reading Horizons method provide students with the foundational skills necessary to read for meaning and enjoyment. Throughout the Reading Horizons instruction, students develop automatic word recognition, learn the meanings of new words, and increase their ability to fluently read increasingly complex text, all of which are necessary components for reading comprehension—which is the ultimate goal of reading.

Comprehension is assessed after each passage or book is read to measure the students' ability to derive meaning from text. Reading Horizons' fiction and non-fiction reading passages and books were created with student interest in mind. Books and passages are available in print or as part of each student's individual reading library in both software programs (*Reading Horizons Discovery* and *Reading Horizons Elevate*).

OTHER COMPONENTS OF EFFECTIVE READING INSTRUCTION

Handwriting

Fluent recognition of letters requires familiarity with the distinctive features of each letter (Adams, 1990; Gibson, Gibson, Pick, & Osser, 1962; Gibson & Levin, 1975). Letter writing practice focuses a student's attention on the unique features of letter shapes and thus reinforces letter recognition and strengthens recall for reading and writing (Cox, 1992; Slingerland, 1971).

With the Reading Horizons method, proper letter formation is taught as each letter/sound of the alphabet is introduced. Students have multiple opportunities to practice correctly forming each letter as writing is an integral part of instruction.

Spelling

Spelling instruction supports reading (Moats, 2005/2006). Accurate spelling indicates that students know the sounds of language as well as the letter or letter combinations that represent each sound.

Students who do not have sufficient knowledge of phonics struggle with reading and spelling (Ehri, 2000; Fayol, Zorman, & Lete, 2009). Automaticity in reading and spelling requires repeated exposure to letter-sound patterns of the language delivered through explicit phonics instruction (Robbins, Hosp, Hosp, & Flynn, 2010).

When reading and spelling are taught together, students have more practice applying common

patterns. Converging evidence shows that integrated spelling and decoding instruction results in significant gains in multiple areas of reading, including word reading skills, fluency, and comprehension (Graham & Hebert, 2010; Weiser & Mathes, 2011).

Spelling instruction and decoding instruction are integrated throughout the Reading Horizons method as students learn the letter(s) that represent each sound in the English language. Students are able to put this knowledge to use as they learn spelling patterns for single words and syllables. As students become more knowledgeable about the spelling patterns in the English language, their spelling improves.

The process of dictation is a central part of each direct instruction lesson. Students apply the skills they have learned by listening to and spelling each word the teacher dictates to them.

Multisensory Instruction

Multisensory teaching links listening, speaking, reading, and writing to reinforce learning of the language structure through active student engagement. Multisensory learning involves the simultaneous use of visual, auditory, and kinesthetic-tactile modalities to enhance memory and learning of written language (Farrell & Sherman, 2011).

Multisensory techniques were first used in the mid-1920s by Dr. Samuel Orton, who was influenced by the kinesthetic teaching method

described by Grace Fernald and Helen Keller. Later, Anna Gillingham and Bessie Stillman published a manual describing a structured, sequential, and multisensory teaching method based on Dr. Orton’s theories, creating what is now known as the Orton-Gillingham multisensory approach to instruction (International Dyslexia Association, 2009).

In a number of research studies, multisensory instruction is proving to be more effective than traditional instruction in the areas of phonemic awareness, decoding skills, and reading comprehension (Carreker et al., 2005; Carreker, Neuhaus, & Swank, 2007; Foorman, Francis, Shaywitz, et al., 1997; Joshi, Dahlgren, & Boulware-Gooden, 2002). In one study on the development of literacy-related skills, second and third graders who received an Orton-Gillingham-based, synthetic phonics (i.e., part-to-whole) approach outperformed children who received a combined synthetic/analytic (i.e., part to whole/whole-to-part) phonics

approach or a sight-word approach (Foorman, Francis, Beeler, et al., 1997).

Reading Horizons is an Orton-Gillingham-based reading program. Visual, auditory, and kinesthetic-tactile modalities are used simultaneously throughout the instructional sequence. As each letter/sound is introduced, students see it, say it, write it, and pronounce it through the process of dictation. Visual cues are also given as each vowel is taught. As instruction progresses, students continue to participate in dictation by hearing, repeating, writing, and reading each word that is dictated. Kinesthetic responses are also emphasized throughout the process of dictation through actions that focus student attention on what is being taught or practiced. In addition, a unique marking system is employed to engage students and focus their attention on the features and patterns in English as well as to give visual cues for pronunciation.

EFFECTIVE READING INSTRUCTION FOR ALL TYPES OF LEARNERS

K–3 Learners

Reading is not naturally acquired in the same way speech is acquired (Adams, 1990; Adams & Bruck, 1993; Liberman, 1992; Liberman & Liberman, 1990; Perfetti, 1991; Pressley & Rankin, 1994). Effective instruction is necessary for the development of reading skills.

A converging body of research supports explicit and systematic phonics instruction for all students (Ehri, 2004; McCardle, Chhabra, & Kapinus, 2008; Carreker et al., 2005; Joshi et al., 2002; NICHD, 2000; Ryder, Tunmer, & Greaney, 2007). The National Reading Panel found that phonics instruction is most effective when taught from kindergarten to second

grade and builds the foundation for reading success in later grade levels (NICHD, 2000).

Both beginning and struggling readers benefit from explicit phonics instruction (Aaron, Joshi, & Quatroche, 2008; Berninger & Wolf, 2009; Birsh, 2005; Fletcher et al., 2007). Such instruction can lead to significant success when intervening with at-risk readers in the early grades (Foorman & Schatschneider, 2003).

Strong phonics instruction can prevent reading failure in many young children and alleviate the effects of poor instruction at any age (Lyon et al., 2001). Researchers now conclude that roughly 95% of first-grade students can be taught to read at a level limited only by their abilities to reason and understand spoken language (Hatcher, Hulme, & Snowling, 2004; Mathes, et al. 2005). In the words of Maryanne Wolf (2007), “Today, we possess sufficient knowledge about the components of reading to be able not only to diagnose almost every child in kindergarten at risk of a learning difficulty but also to teach most children to read” (p. 21).

Reading Horizons Discovery is created for K–3 instruction. The explicit, systematic, direct instruction provides a solid foundation for students who are, at this age level, “primed” for literacy instruction. The multisensory approach keeps students engaged and strengthens learning and recall. The *Reading Horizons Discovery* curriculum can be delivered whole class, small group, or one-on-one. *Reading Horizons Discovery* provides effective instruction for all beginning readers as well as for students who are in need of intervention. The content in the *Reading Horizons Discovery* curriculum can be taught across grade levels.

Interactive software is available to supplement direct instruction and provide individualized practice and reinforcement of each skill. The

Reading Horizons Discovery program also includes learning materials specific to younger learners, such as decodable readers for each skill lesson. Assessment is administered throughout the program to monitor student progress as well as identify students in need of intervention.

Fourth Grade–to–Adult Learners

Researchers estimate that one out of 10 adolescents has serious struggles with word identification (Curtis & Longo, 1999), which is a problem that usually stems from difficulties with phonological word analysis (Kamil, 2006; National Institute for Literacy [NIFL], 2007).

In a study conducted with 346 adolescent readers, Deshler, Hock, and Catts (2006) investigated which reading skills adolescents had mastered and which skills they had not. After analyzing several reading assessments, the researchers found that struggling adolescent readers who performed at or below the 40th percentile “need intensive word-level interventions in addition to comprehension interventions” (Deshler et al., 2006, p. 21). Such word-level interventions should include decoding and word recognition. Further investigation reveals that over half of the struggling adolescents in urban schools struggle with word-level reading (Hock et al., 2009). They, along with many other reading researchers, conclude that adequate skills in word-level reading, as suggested by the National Reading Panel (NICHD, 2000), must be developed if proficient reading is to be achieved (Connor, Morrison, & Underwood, 2007; Leach et al., 2003; Curtis & Longo, 1999; Deshler et al., 2001; Lovett, Barron, & Benson, 2003; Penney, 2002).

As many as 44 million adults in the U.S. cannot decode well enough to read a simple story to a child (Kirsch, et al., 1993). Without proper intervention, the outlook for struggling readers

is bleak. Sixty percent of America's prison inmates are illiterate and 85% of all juvenile offenders have reading problems (Greenberg, Dunleavy, & Kutner; 2007). In fact, some states in the U.S. refer to third-grade reading proficiency rates when projecting the number of prison cells that will be needed 20 years into the future (Bolton & Lavoie, 2004). A Criminal Justice Policy Council study reported that 37 percent of young prisoners were less likely to return to prison if they learned to read during their incarceration (Susswein, 2000, as cited in Keith & McCray, 2002).

Reading Horizons Elevate was created to address the needs of older students who struggle with reading. Whether their struggles are a result of poor instruction or learning disabilities, *Reading Horizons Elevate* provides all of these learners with effective instruction.

Reading Horizons Elevate offers direct instruction as well as age-appropriate, individualized software instruction. The *Reading Horizons Elevate* curriculum can be taught in any instructional setting with any combination of direct instruction and/or self-paced software instruction.

Reading Horizons Elevate reading passages and instructional materials are specific to the needs of older learners. The Reading Horizons Reading Library in the *Reading Horizons Elevate* software provides students with high-interest passages in multiple genres and hours of reading practice.

The Reading Horizons curriculum has been used successfully as intervention for students from 4th–12th grade and effective instruction for illiterate or low-literate adults and adults learning English. Many adults and juveniles in the correctional system have seen success with the *Reading Horizons Elevate* curriculum.

Dyslexic Learners

Dyslexia is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties usually result from a phonological processing deficit and are often unexpected in relation to a student's other cognitive abilities. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge (Lyon, Shaywitz, & Shaywitz, 2003).

Seventy-four percent of children who struggle with reading in third grade remain significantly below grade level in ninth grade (Francis, Shaywitz, Stuebing, Shaywitz, and Fletcher, 1996). However, intensive, systematic, code-based reading interventions rewire the brain and yield significant gains in fluency and comprehension no matter the student's age (Shaywitz et al. 2004). If children who are dyslexic receive systematic, code-based instruction before third grade, they will have significantly fewer problems in learning to read at grade level (Lyon, 1996; Shaywitz, 2003; Shaywitz, et al., 2004).

The Reading Horizons method is an Orton-Gillingham-based, multisensory reading program that has successfully been used with students who have been diagnosed with dyslexia. The multisensory instructional approach strengthens modalities (e.g., visual, auditory, and kinesthetic-tactile) that may not have been sufficiently developed in the brain while simultaneously supporting modalities that are more developed. The Reading Horizons method can be used with dyslexic students of any age.

English Language Learners

Phonics instruction is also effective for students learning English. Although phonics has historically not been an area of emphasis in second-language reading, several researchers and educators suggest that the teaching of phonics skills is an effective approach to teaching the foundational skills necessary for literacy development (Anderson, 2008; Birch, 2002; Jones, 1996; Fish et al., 2007). Jones (1996) asserts that “the question should no longer be whether to teach phonics as part of adult ELL instruction, but how this might be done most effectively” (p.2).

English Language Learners with limited oral vocabularies benefit from early decoding instruction. In one study, English Language Learners receiving explicit instruction in phonemic awareness and phonics did just as well as native English speakers who

received the same instruction and significantly outperformed English speakers who did not receive such instruction (Morgan & Willows, 1998).

The Reading Horizons method has been used with English Language Learners of all ages. Students learning English benefit from the explicit focus on each of the sounds in English. In addition, as they progress through the program, English Language Learners learn that the spelling of English is largely predictable and consistent. Vocabulary development is robustly supported in Reading Horizons programs for students learning English. For older students, supplemental language instruction materials are available for direct instruction. Additional features specifically helpful to English Language Learners are also available on the *Reading Horizons Elevate* software program.

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