



INTRODUCTION

Scientific research has yielded several models that attempt to simplify and explain the complexity of the reading process. This paper will review the primary reading processing models and explain how the components of the Literacy Footprints Guided Reading System support the valid science behind these models.

WHAT IS THE LITERACY FOOTPRINTS GUIDED READING SYSTEM?

The Literacy Footprints Guided Reading System is a research-based, comprehensive, small-group literacy framework that provides explicit and systematic reading instruction. Created by Michèle Dufresne (EdD) and Jan Richardson (PhD), it is based on Richardson’s widely used and highly regarded work in reading instruction (Richardson, 2009, 2016). Literacy Footprints lessons provide differentiated instruction in phonemic awareness, alphabetics, phonics, decoding, fluency, vocabulary, comprehension, and writing—all critical elements in a science-based reading program.



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SCIENTIFIC MODELS OF THE READING PROCESS

Reading is a complex process of constructing meaning from print. The most widely accepted scientific models of the reading process are the Reading Triangle (Seidenberg & McClelland, 1989), the Reading Rope (Scarborough, 2001), and the Literacy Processing Theory (Clay, 2015a, 2015b, 2016). The following is a brief overview of the similarities and differences among these theories.

Reading Triangle (Seidenberg & McClelland, 1989)

The Reading Triangle model represents the work of Dr. Mark Seidenberg, a psychologist and professor at the University of Wisconsin-Madison and senior scientist at Haskins Laboratories in New Haven, Connecticut. The triangle illustrates how three cognitive facilities form a network of phonology (sounds), semantics (meaning), and orthography (spelling). “There is more to reading,” says Seidenberg, “than computing the meanings and pronunciations of isolated words” (Seidenberg, 2017, 147). Readers must also use context to decode and comprehend.

Reading Rope (Scarborough, 2001)

The Reading Rope model was created by Dr. Hollis Scarborough, a psychologist and senior scientist at Haskins Laboratories. Scarborough’s Reading Rope expands upon the “simple view of reading” developed by Gough and Tunmer (1986) and illustrates the complexity of learning to read. According to Scarborough, beginning readers use their background knowledge, vocabulary, language structures, verbal reasoning, and literacy knowledge to build language comprehension. When readers develop phonological awareness, decoding skills, and sight recognition, they build a system for recognizing words. As they become increasingly strategic in language comprehension and more automatic with word recognition, they develop into skilled readers.



Literacy Processing Theory (Clay, 2015b, 2016)

Dr. Marie Clay, a child psychologist and founder of Reading Recovery®, studied children in their earliest stages of reading acquisition. Clay defined reading as “a message-getting, problem-solving activity, which increases in power and flexibility the more it is practiced” (2015b, 5). Her Literacy Processing Theory depicts a network of complex neural processing systems readers use when reading continuous text and illustrates four types of information young readers must use during the reading process: Meaning, which is their background knowledge, vocabulary, and verbal reasoning; Structure, which includes language syntax and the grammar that governs it; Phonology, which involves hearing units of sounds such as syllables and phonemes; and Visual Information, which includes letters, letter clusters, orthographic patterns, and automatic recognition of high-frequency words. According to Clay (2016), the ultimate goal in literacy processing is the interaction and integration of these four information systems.

These models employ different approaches but similar terms to explain the reading process. Each is science-based and includes *hearing* the sounds of language (phonology, phonological awareness) and *decoding* visual information in print (orthography, word recognition). Most important, each model stresses *understanding* the message (meaning, semantics, language comprehension). Although hearing the sounds of language and decoding visual information are important elements in learning to read, the heart and soul of reading is comprehension. Without comprehension, there is no reading.

THE LITERACY FOOTPRINTS GUIDED READING SYSTEM

Researcher Anita laquinta describes guided reading as one of the most important contemporary reading instructional practices in the United States (Fawson & Reutzell, 2000). Informed by 40 years of research drawing from cognitive science and linguistic principles, guided reading supports all readers, including striving, advanced, and English learners (Scharer, 2019; Clay, 2015b, 2016; Fountas & Pinnell, 2016). According to Dr. Richardson (2016), the small-group guided reading model “allows teachers to target specific learning needs, provide appropriate scaffolding, and gradually reduce support to promote independence.”

The primary features of the Literacy Footprints Guided Reading System are small, flexible groups; challenging texts; and responsive feedback. Each is backed by scientific research that verifies guided reading’s positive effects on student learning and reading proficiency.

Small, flexible groups. Literacy Footprints utilizes small groups, which allow teachers to more easily target the individual needs of students. Teachers regroup students as their needs change. The Center for the Improvement of Early Reading Achievement (CIERA) studied the practices of accomplished teachers who were helping striving readers beat the odds and achieve. They discovered that “time spent in small-group instruction for reading distinguished the most effective schools from the other schools in the study” (Taylor et al., 2000).

Challenging texts. The books in the Literacy Footprints kits ensure that challenge is appropriately calibrated to the needs of the learner. Research has shown that there is a sweet spot for learning—the task should not be too easy or too hard. As students read, errors are “expected and celebrated because they are opportunities for learning” (Fisher, Frey, & Hattie, 2016, 31). Tomlinson (2004, 22) noted, “Our best understanding suggests that a student only learns when work is moderately challenging that student, and where there is assistance to help the student master what initially seems out of reach.”

Responsive feedback. During each Literacy Footprints guided reading lesson, teachers listen to and prompt students as they read. The small-group context provides opportunities for teachers to observe individual students and make in-the-moment instructional decisions that help move that student’s learning forward. Responsive feedback has an effect size of 0.75. “When students are engaged in appropriately challenging tasks, they are more likely to respond to feedback because they need that information to continue growing and learning” (Fisher, Frey, & Hattie, 2016, 23).

LITERACY FOOTPRINTS AND READING RESEARCH

In 1997, Congress convened a National Reading Panel (National Institute of Child Health and Human Development [NICHD], 2000) to assess the status of research-based knowledge related to the various approaches to teaching children to read. The panel’s analysis of reading research studies concluded that the best approach to reading instruction is one that incorporates what they described as the Five Pillars of Reading:



- Phonemic Awareness: the ability to hear, recognize, and manipulate sounds
- Phonics: matching sounds to letters and letter patterns
- Vocabulary: understanding the meaning of words
- Fluency: the ability to read accurately, expressively, and with appropriate speed
- Comprehension: the ability to understand and retain important information to create meaning from text

The following chart demonstrates how the instructional components in the Literacy Footprints Guided Reading lessons address each of the Five Pillars of Reading (National Institute of Child Health and Human Development [NICHD], 2000).

CORRELATION OF LITERACY FOOTPRINTS LESSON COMPONENTS AND THE PILLARS OF READING

LESSON COMPONENT	DESCRIPTION	PILLARS OF READING
Read and Discuss a New Book	After a brief introduction, students read and discuss a challenging book with the teacher's feedback and support.	Phonics Fluency Vocabulary Comprehension
Reread Familiar Books	Students reread books to build reading accuracy and fluency. The reading is followed by a group discussion that delves into deeper levels of comprehension and vocabulary.	Phonics Fluency Comprehension Vocabulary
Learn Sight Words	Students use multisensory activities to gain automaticity with reading and writing high-frequency words.	Phonics Fluency
Word Study	Students receive explicit, systematic instruction in phonemic awareness, phonics, spelling, vocabulary, and morphology.	Phonemic Awareness Phonics Vocabulary
Guided Writing	Students extend their comprehension by writing about the book. They are encouraged to include the new vocabulary from the book in their writing.	Phonemic Awareness Phonics Vocabulary Comprehension

LITERACY FOOTPRINTS AND THE SCIENCE OF READING

The Science of Reading is a theory derived from research by psychologists, neuroscientists, linguists, and educators. It is not a reading program or a specific component of instruction (such as phonics). Nor is it a one-size-fits-all curriculum (whatisthescienceofreading.org).

Literacy Footprints is a reading curriculum that orchestrates the complexities of skilled reading that align with the Science of Reading. Each of the elements in Scarborough's Reading Rope (2001) is systematically and explicitly taught during a Literacy Footprints lesson. Dr. Scarborough has a close relationship with the International Dyslexia Association, and her Reading Rope is often used by Science of Reading proponents.



THE SCIENCE OF READING AT WORK IN THE LITERACY FOOTPRINTS GUIDED READING SYSTEM

SCARBOROUGH'S ELEMENTS (2001)	LITERACY FOOTPRINTS GUIDED READING SYSTEM
Background Knowledge	The culturally relevant texts in the Literacy Footprints Guided Reading System build background knowledge across a variety of topics, text structures, and genres. As students read and discuss the book, they expand their knowledge of the world and increase their understanding of academic concepts.
Vocabulary	Literacy Footprints texts are sequenced in a gradient of complexity that exposes students to challenging vocabulary and new concepts. The new words are explicitly taught during the book introduction, and vocabulary strategies are modeled and practiced during the reading of the book.
Language Structures	During reading, students are prompted to use syntax (language structures and grammar) along with meaning and visual information (letters, letter clusters, and word parts) to problem-solve unfamiliar words.
Verbal Reasoning	Students are taught to monitor their comprehension and intentionally apply a variety of comprehension strategies when meaning breaks down. After reading, the teacher guides students in discussions that explore literal and inferential meanings about texts. (See Appendix A for a complete listing of the comprehension strategies taught.)
Literacy Knowledge	Nascent readers learn print conventions such as directionality, the concept of a letter and a word, punctuation, and capitalization. They also learn that print and illustrations communicate the author's message. Students are exposed to a variety of topics and genres.
Phonological Awareness	During the word study component, children use manipulatives such as picture word study cards, magnetic letters, ABC charts, and sound boxes to isolate, segment, and blend sounds.
Decoding	Decoding, the process of using phonics to problem-solve unfamiliar words, is explicitly taught during the reading of the book. To facilitate rapid word solving, children are taught to break words in useful and flexible ways (Kaye, 2006). During word study, students learn letter-sound relationships, spelling patterns, and orthographic mapping. They also learn to generalize spelling rules and patterns to other similar words. (See Appendix B for the Literacy Footprints scope and sequence for teaching phonics.)
Sight Recognition	High-frequency words are explicitly taught during the word study component. Children are then expected to transfer their knowledge of these words during reading and writing.



OTHER LITERACY SKILLS TAUGHT DURING LITERACY FOOTPRINTS LESSONS

In addition to Scarborough's eight elements of the Reading Rope (Scarborough, 2001), Literacy Footprints lessons teach the following important literacy skills:

Fluency. Repeated reading is embedded in the Literacy Footprints framework. Research shows that rereading text improves word accuracy, fluency, and comprehension (LaBerge & Samuels, 1974; Rasinski, 2012). Students are also encouraged to reread the books at home with a caregiver.

Writing. Extensive research has revealed positive effects for integrating reading and writing (Shanahan, 1990; Clay, 2015b). The complexities of reading merge during guided writing as children use phonics, orthography, language structures, and newly learned vocabulary to write about the text. (See Appendix C for a description of the written responses taught during Literacy Footprints Guided Reading lessons.)

PROFESSIONAL DEVELOPMENT

Professional learning is built into the Literacy Footprints Guided Reading System. Each of the teaching guides provides detailed explanations of the procedures and links to helpful teaching videos. Our team of literacy experts also provides research-proven professional development services to support schools in effectively implementing the Literacy Footprints Guided Reading System. Our services include:

- Customized on-site in-service training
- Customized job-embedded training
- Free training webinars
- On-demand training presentations on the Literacy Footprints Digital Reader

CLOSING THOUGHTS

Literacy Footprints Guided Reading is a research-based system designed to support teachers as they help their students become better readers. The lessons are not scripted; they are guides to help teachers make important instructional decisions. In addition to being research based, the strongest argument for Literacy Footprints is that the lessons facilitate balanced learning that integrates reading, writing, and phonics. Learning phonics and words in isolation won't automatically transfer to authentic reading and writing. As phonics expert Wiley Blevins (2019, 6) has stated, "Students progress at a much faster rate in phonics when the bulk of instructional time is spent on applying the skills to authentic reading and writing experiences, rather than isolated skill-and-drill work." The Literacy Footprints Guided Reading System teaches phonics skills, but it also provides for an engaging, purposeful transfer of those skills to reading and writing.

The goal of the Literacy Footprints Guided Reading System is simple: help all students become proficient readers who just can't wait to read another book!



APPENDIX A: COMPREHENSION STRATEGIES TAUGHT IN LITERACY FOOTPRINTS GUIDED READING

COMPREHENSION FOCUS	THE READER...
Comprehension Monitoring	is aware when meaning breaks down and applies strategies to improve understanding.
Retelling	<ul style="list-style-type: none"> recalls information in nonfiction. retells important events in sequence and describes story elements.
Developing Vocabulary	uses a variety of strategies to understand the meaning of unfamiliar words or phrases.
Asking and Answering Questions	asks and answers literal and inferential questions.
Identifying Main Idea and Details	is able to identify the main idea and most important details.
Analyzing Characters	uses text clues to identify character feelings, traits, and motives.
Analyzing Relationships	understands the relationships between people, events, or ideas (e.g., cause-effect, compare and contrast).
Infering	makes an inference or draws a conclusion from details in the text.
Summarizing	synthesizes important information and prepares a summary that covers the main points.
Evaluating	understands the theme, author's purpose, point of view, and fact versus opinion.
Using Text Features	uses the Table of Contents, glossary, index, headings, illustrations, diagrams, etc., to clarify and extend understanding.
Understanding Text Structure	understands how the author organizes the information within the text: description, problem/solution, cause-effect, compare and contrast, and time order/sequence.
Strategies for Test Taking	understands how to read a test passage and apply strategies for answering multiple-choice questions.

RICHARDSON, J. (2016)



APPENDIX B: LITERACY FOOTPRINTS GUIDED READING SCOPE AND SEQUENCE FOR TEACHING PHONICS

TEXT LEVEL	PHONICS SKILLS	WORD STUDY ACTIVITIES	READING APPLICATION	WRITING APPLICATION
Beginner Steps	<ul style="list-style-type: none"> Identify letters by name and sound Form letters correctly Develop flexibility with letter and sound knowledge 	<ul style="list-style-type: none"> Hear, say, and clap syllables Hear, say, and identify rhyming words Isolate initial consonant sound, and link it to a letter 	<ul style="list-style-type: none"> Read simple patterned text to learn concepts of print and language structures Begin to use known letters and sounds 	<ul style="list-style-type: none"> Write simple sentences with teacher support (interactive writing) <ul style="list-style-type: none"> » Phonemic awareness » Letter names and sounds » Print concepts » Letter formation Remake cut-up sentences <ul style="list-style-type: none"> » Attend to initial letter with prompting

EMERGENT LESSONS TEXT LEVEL	PHONICS SKILLS	WORD STUDY ACTIVITIES	READING APPLICATION	WRITING APPLICATION
A	<ul style="list-style-type: none"> Initial consonants Long vowels 	<ul style="list-style-type: none"> Picture Sorting Making Words Sound Boxes 	<ul style="list-style-type: none"> Read patterned text to learn concepts of print, language structures, and sight words Begin to attend to initial letters 	<ul style="list-style-type: none"> Write a dictated sentence that includes known sight words and sounds
B	<ul style="list-style-type: none"> Initial and final consonants Short <i>a</i> and <i>o</i> 	<ul style="list-style-type: none"> Picture Sorting Making Words Sound Boxes 	<ul style="list-style-type: none"> Read patterned text to learn concepts of print, language structures, and sight words Begin to attend to initial and final letters 	<ul style="list-style-type: none"> Write a dictated sentence that includes known sight words, initial and final consonants, and short <i>a</i> and <i>o</i> vowel sounds
C	<ul style="list-style-type: none"> All short vowels CVC words 	<ul style="list-style-type: none"> Picture Sorting Making Words Sound Boxes 	<ul style="list-style-type: none"> Read simple text with controlled high-frequency words and CVC words Sound out small words by attending to initial, medial, and final letters 	<ul style="list-style-type: none"> Write a dictated sentence that includes known sight words, CVC words, and unfamiliar words students can sound out
D	<ul style="list-style-type: none"> Digraphs 	<ul style="list-style-type: none"> Picture Sorting Making Words Sound Boxes Breaking Words 	<ul style="list-style-type: none"> Read nonpatterned text with controlled sight word vocabulary Decode words with digraphs 	<ul style="list-style-type: none"> Write a dictated sentence that includes known sight words, CVC words, and words with digraphs
E	<ul style="list-style-type: none"> Initial blends 	<ul style="list-style-type: none"> Picture Sorting Making Words Sound Boxes Breaking Words 	<ul style="list-style-type: none"> Read nonpatterned text with many known words Decode words with initial consonant blends 	<ul style="list-style-type: none"> Write two simple sentences that include familiar sight words and unknown words with digraphs and initial blends



EMERGENT LESSONS TEXT LEVEL	PHONICS SKILLS	WORD STUDY ACTIVITIES	READING APPLICATION	WRITING APPLICATION
F	<ul style="list-style-type: none"> Final blends Inflectional endings Contractions 	<ul style="list-style-type: none"> Making Words Sound Boxes Breaking Words 	<ul style="list-style-type: none"> Read nonpatterned text with many known words Decode words with initial and final consonant blends, contractions, and inflectional endings 	<ul style="list-style-type: none"> Write two or three sentences that include familiar sight words, contractions, and unknown words that contain digraphs and initial and final blends
G	<ul style="list-style-type: none"> Initial and final blends Compound words Silent e Inflectional endings 	<ul style="list-style-type: none"> Making Words Breaking Words Analogy Charts 	<ul style="list-style-type: none"> Read increasingly complex texts with many known words Decode compound words and words with initial and final blends, inflectional endings, and silent e 	<ul style="list-style-type: none"> Write three sentences that include contractions, compound words, and/or unknown words that contain initial and final blends, inflectional endings, or silent e
H-I	<ul style="list-style-type: none"> Silent e Vowel patterns Inflectional endings 	<ul style="list-style-type: none"> Analogy Charts Breaking Big Words Make a Big Word 	<ul style="list-style-type: none"> Read complex texts with many known words Decode compound words and words that contain silent e, vowel patterns, and inflectional endings 	<ul style="list-style-type: none"> Write several sentences that include compound words and unknown words with silent e, vowel patterns, and inflectional endings

TRANSITIONAL LESSONS TEXT LEVEL	PHONICS SKILLS	WORD STUDY ACTIVITIES	READING APPLICATION	WRITING APPLICATION
J-N	<ul style="list-style-type: none"> Silent e Vowel patterns r-controlled vowels Added inflectional endings with spelling changes Compound words Prefixes and suffixes Vocabulary strategies 	<ul style="list-style-type: none"> Analogy Charts Breaking Big Words Make a Big Word Writing Big Words 	<ul style="list-style-type: none"> Read complex texts with unfamiliar concepts and varied text structures Decode unfamiliar words using a variety of phonics skills, including vowel patterns, r-controlled vowels, inflectional endings, multiple syllables, compound words, and prefixes and suffixes 	<ul style="list-style-type: none"> Write a paragraph that includes complex sentences, compound words, multisyllable words, vowel patterns, and common prefixes and suffixes



FLUENT LESSONS TEXT LEVEL	PHONICS SKILL	WORD STUDY ACTIVITIES	READING APPLICATION	WRITING APPLICATION
O-Z	<ul style="list-style-type: none"> Affixes and roots 	<ul style="list-style-type: none"> Make a Big Word Writing Big Words Read and Define Words 	<ul style="list-style-type: none"> Read complex texts with unfamiliar concepts and varied text structures Use morphological analysis and context of the word/sentence to determine the meaning of polysyllabic words 	<ul style="list-style-type: none"> Write several paragraphs using newly learned complex vocabulary Spell polysyllabic words by hearing and recording syllables and parts

PROCEDURE	PURPOSE FOR WORD STUDY ACTIVITIES
Picture Sorting	Hear and link sounds to letters (phonemic awareness)
Making Words	Monitor with sounds and letters (synchrony)
Sound Boxes	Hear and record sounds in sequence (orthographic mapping)
Breaking Words	Break words into smaller parts to promote efficient decoding skills (onset and rime)
Analogy Charts	Learn vowel patterns, silent e feature, and inflectional endings (analogies)
Breaking Big Words	Break words into smaller parts (onset, rime, inflectional ending)
Make a Big Word	Break words into syllables (syllabication)
Writing Big Words	Learn prefixes and suffixes in order to read and write multisyllable words (morphology)

RICHARDSON, J. & DUFRESNE, M. (2019)



APPENDIX C: WRITING FORMATS INCLUDED IN LITERACY FOOTPRINTS GUIDED READING

FICTION	INFORMATIONAL
Write about the beginning, middle, and end (B-M-E).	Use key words to summarize a chapter.
Summarize using Somebody-Wanted-But-So (S-W-B-S).	Write key facts about an illustration.
What is the problem and how was it solved?	Write facts using words from the glossary.
How do the main character's feelings change?	Write important facts about the main topic.
Analyze a character and describe their traits.	Compare (or contrast) two people, animals, events, or ideas.
Write a retelling (Five-Finger Retelling card).	Ask and answer questions about the topic.
Write about the relationships between main events.	Use key words from the index to write what you learned about the topic.
	Write about the author's purpose.



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