Evidence for Science of Reading

Grounded in decades of literacy research and a proven history of efficacy in the classroom, *SRA Open Court Reading* has been building strong readers, writers, and thinkers for more than 60 years.

Underpinned by findings from learning theory and cognitive science—also known as the Science of Reading—and proven to achieve reading gains in a diverse range of readers from beginning to fluent, *Open Court Reading* is research-validated as well as research-based.

See the proof. Read what the Science of Reading tells us, and see how *Open Court Reading* empowers teachers to make the research actionable.

Print and Book Awareness

What Research Tells Us

The National Early Literacy Panel (NELP), which provides a synthesis of the research on early literacy development, identified the link between specific early literacy skills and later success in reading and writing (National Early Literacy Panel, 2008).

How Open Court Reading Applies Research

The Foundational Skills section of **Open Court Reading** contains print awareness instruction related to learning the alphabet, letter formation, and how the alphabet works. Print awareness elements are also integrated into instruction when teachers engage students in reading comprehension and writing activities.

See It In Action!

Print and Book Awareness

REVIEW the selection with students. Use the following suggestions to reinforce students' understanding of headings and word boundaries.

Parts of a Book: Headings

OPEN *Friendship Big Book 2* to page 6. Point to the heading number and title and remind students that a heading tells readers what they will read about in the section of text that follows. The number tells the sequence, or order, of the section. Ask, *What did you read about in Situation I? We read about how Mark had to decide whether to let Jason borrow his mitt. It was a tough decision because Jason does not take care of things.* Browse the pages of "Friends Find Solutions" and have students identify each section heading by number and title and tell briefly what the text that follows is about.

Print awareness involves understanding there are reasons print is arranged in a certain way.

Phonological & Phonemic Awareness

What Research Tells Us

The ease with which children learn to read often depends on their level of phonological/ phonemic awareness (Shaywitz, 2003; Stanovich, 1986). Explicit instruction in phonemic awareness is important, and it should follow a developmental progression from working with words and parts of words to manipulating individual sounds (Mott & Rutherford, 2012). Phonological and phonemic awareness are initially taught as oral/aural (speaking/listening) skills. Combining this instruction with instruction in letter sounds has a positive effect on reading and spelling for many students, including ELs and readers with disabilities (National Institute of Child Health and Human Development, 2000).

How Open Court Reading Applies Research

Phonological awareness instruction includes listening for word parts, identifying the number of words in sentences, combining word parts into words, working with rhyme, clapping and counting syllables in a word, and manipulating and exploring sounds through game-like activities. Phonemic awareness instruction shifts from working with words and word parts to manipulating individual sounds (or phonemes). Instruction focuses on two key areas: oral blending and oral segmentation. Phonemes are connected to letters as students move through activities that focus on sound and letter substitution and sound discrimination.

See It In Action!

Phonological and Phonemic Awareness

Listening for First, Middle, and Last Words

REPEAT the Listening for First, Middle, and Last Words activity. Tell students to listen carefully as you say three words such as, "see the clock."

Model the response by saying, "The first word is *see*. The second word is *the*. The last word is *clock*."

Have three students stand in a row as the first, middle, and last words. Tell the first student to move forward when you say the first word in each phrase. Give the same direction to the second and third students for the middle and last words in each phrase.

Continue by saying additional three-word sentences or phrases and by reminding students when they should move.

Phonological awareness activities include manipulating and exploring sounds through game-like activities.

Phonics and Decoding

What Research Tells Us

Cognitive science research proves both fluent, accurate decoding and automatic word recognition are essential behaviors skilled readers demonstrate. When these skills are based in phonic knowledge, the reader is able to connect sounds and words to meaning. Louisa Moats specifically emphasizes the importance of young readers connecting sounds to letters (or spellings) and constructing words in order to read them (Moats, 1998).

How Open Court Reading Applies Research

Open Court Reading introduces sounds and spellings through systematic, explicit, and sequential instruction, enabling students to build both decoding (reading) and encoding (spelling) abilities. Beginning in grade K, children learn about the alphabetic principle—that is, which sounds are represented by letters and can be blended to form words. Instruction shifts in grade 1 from mapping sounds to letters to mapping sounds to spellings. Recognizing that some children may need additional support, the program reviews and reinforces explicit phonics instruction in grades 2 through 5.

See It In Action!

Phonics and Decoding
/f/ spelled *f* and *ff*

☺ Introduce the Sound/Spelling **ROUTINE** **I**

USE Routine I, the Introducing Sounds and Spellings Routine, to introduce /f/ spelled *f* and *ff*.

Point to the back of *Sound/Spelling Card* 6—Fan, and ask students what they already know about the card. F *is a consonant.* Have them identify the capital *f* and lowercase *f* on the card.

Turn the card. Point to the picture and tell students that this is the Fan card. Point to and name the *f* spelling for /f/.

Play or read the Fan story:

/f/ /f/ /f/ /f/ /f/—What's that funny sound?

It's Franny the Fan going round and round.

And this is the sound that old fan makes: /f/ /f/ /f/ /f/ /f/.

When it's gets too hot, you see,

Franny cools the family: /f/ /f/ /f/ /f/ /f/.

Instructional routines include the systematic and sequential introduction of sounds and letters using Alphabet Sound and Sound/Spelling Cards.

Word Analysis

What Research Tells Us

According to Henry, fluent readers look for familiar morphemes in words (Henry, 1988). While focusing on individual sounds is an efficient early reading strategy, it is not effective for longer words. If students learn the Latin root, "bene," meaning "good," they can readily find that root in words like "benefit," "beneficial," "benefactor"—and appreciate that all these words have something to do with "good." Thus, using their knowledge of affixes, students can recognize that a "benefactor" is someone who does good things or that "beneficial" is an adjective related to the trait of goodness. As Templeton notes (2010), learning one root leads to the exponential learning of more words; 60 percent of English words are generated using morphological building blocks.

How Open Court Reading Applies Research

Beginning in grades K and 1, inflectional endings are introduced using words requiring no spelling changes. Common prefixes are introduced in grade 1 to teach about prefixes with no spelling changes. Roots, prefixes, and suffixes are taught in grades 2–5. Students are taught to examine words and identify roots and affixes in order to deconstruct the word. Then, students identify the meaning of each part, reconstruct the word, read the word, and develop its meaning. Finally, students start to use the word in sentences.

Word Analysis
Prefixes *dis-* and *un-*

Decoding ROUTINE 10

EL **USE** Routine 10, the Words with Prefixes and Suffixes Routine, to discuss the words with students. Tell students that words can be made up of several different meaningful parts. Have students identify the base words and discuss their meanings. Teach the meaning of each prefix: *dis-* means "not" or "opposite of" and *un-* means "not" or "opposite of." Explain that a prefix is a group of letters that is added to the beginning of a base word. These letters make up the prefix, which has a specific meaning, and the prefix changes the meaning of the base word. Have students reassemble each word by thinking aloud about the meaning of its parts: the base word and the prefix.

About the Words

1-2 **Prefix *dis-*** Have students use the base word and the prefix *dis-* to determine the meaning of each word in Lines 1 and 2. *dislike—to not like; disagree—to not agree; dishonest—not honest; disrespect—to not respect; distrust—to not trust; disconnect—to do the opposite of connect; displease—to not please; discontinue—to not continue*

3-4 **Prefix *un-*** Have students use the base word and the prefix *un-* to determine the meaning of each word in Lines 3 and 4. *unkind—not kind; unwritten—not written; unfair—not fair; unwise—not wise; unable—not able; unaware—not aware; unpack—to do the opposite of pack; unhappy—not happy*

See It In Action!

Word analysis emphasizes decoding longer, more complex words using word parts, or morphemes. Breaking words into meaningful parts—base words, roots, and affixes—helps readers rapidly read longer and more complex words accurately.

Fluency

What Research Tells Us

According to Samuels and Farstrup, fluency is strongly related to improved comprehension (Samuels & Farstrup, 2006). While fluency has been identified as a key element in comprehension, fluency instruction remains limited and often misunderstood (Heitin, 2015). To achieve fluency, students need to decode accurately and rapidly, understand prosodic elements, and combine words into meaningful units (Kieffer & Lesaux, 2007, 61 (2)). Students need specific instruction to increase their reading speed while maintaining their accuracy.

How Open Court Reading Applies Research

The goal of **Open Court Reading** is for all students to read fluently at the end of grade 1. Fluency instruction is an essential component of the program. As teachers read aloud, they model fluent reading for their students. Students practice decoding skills using Pre-Decodable and Decodable Books, which contain high-frequency words as well as words consisting of sounds and spellings students have already learned. The program makes an explicit connection between fluency and comprehension through fluency instruction integrated into reading comprehension activities during Reading and Responding. Teachers explain specific fluency skills—accuracy, rate, and prosodic features—and model them using parts of selections from the student anthologies.

See It In Action!

Students practice decoding skills and high-frequency words using Decodable Books.

Fluency: Reading a Decodable Story ROUTINE 9

Book 5, Story 38: The Boat Show

New High-Frequency Words: *own, show*

Reviewed High-Frequency Words: *come, every, into, saw, want, water, your*

USE Routine 9, the Reading a Decodable Story Routine, to have students read "The Boat Show." Tell students to focus on reading this story accurately.

Fluency

Prosody

EXPLAIN to students that part of reading fluently is reading in a manner that sounds like natural speech. To do this, students must read related words in phrases and clauses as chunks, or units.

Write or project the final three paragraphs on page 58 of "Damon and Pythias." Mark natural phrase and clause boundaries with slashes. For example, "Pythias stood proudly/ in the center of the throne room . . . Before my punishment,/ will you allow me to go home/ and tell my family what happened? They will worry about me/when I do not return." Have students listen as you read the text, noting how you paused slightly at the markers. Talk about how the words in each group are related.

students read the sentences naturally, using the markers as guides. To scaffold the ction, mark the boundaries in the beginning and have students practice reading using ready-marked passages. As students become comfortable, have them mark what they ading with boundary markers. Gradually phase out the markers or slashes.

Teachers model prosody using selections from the student anthology.

Vocabulary

What Research Tells Us

Learning vocabulary is a complex and long-term process (Lehr, Osborn, & Heibert, 2004). Decades of research provide evidence of a strong relationship between vocabulary and reading comprehension.

Knowing a word well requires understanding multiple meanings, knowing its different functions, and being able to connect the word with other related words (Beck & McKeown, 1991; Nagy & Scott, 2000). It involves many interactions with the word in a variety of receptive and expressive contexts.

How Open Court Reading Applies Research

New vocabulary is developed, practiced, applied, extended, and reviewed. Vocabulary instruction throughout each lesson provides opportunities for students to discuss definitions of words, use vocabulary words in a variety of activities, and develop a deeper understanding of the meanings of new words. Students monitor their understanding of the text and are encouraged to stop and clarify any unknown words while reading. Students learn new vocabulary both directly and indirectly as they participate in blending, spelling and dictation, discussions, writing, and reading a variety of fiction and nonfiction texts in Big Books, Student Anthologies, and Social Studies and Science Connections.

Practice Vocabulary ROUTINE II

USE Routine II, the Selection Vocabulary Routine, to have students practice their vocabulary and determine the meaning of words.

Display the selection vocabulary words from "Busy Bees." Ask students the following questions and have them respond with the appropriate vocabulary words.

1. *Which word is an antonym for* full? *vacant*
2. *Which word names things made at a factory? products*
3. *Which word is a synonym for* raid? *invade*
4. *Which word names parts of a tree? limbs*
5. *Which word is a verb that means "to make for a purpose"? design*
6. *Which word names an insect's body part? antenna*

For additional practice and review of the selection vocabulary words, have students complete ***Skills Practice 2*** pages 47–48.

See It In Action!

Vocabulary instruction provides opportunities for students to discuss definitions of words and develop a deeper understanding of the meanings of new words.
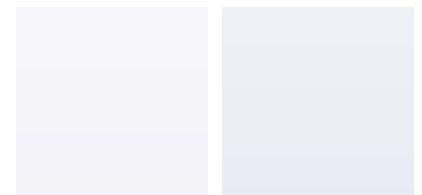
Comprehension

What Research Tells Us

Strategy instruction is most effective when strategies are explicitly taught (National Institute of Child Health and Human Development, 2000; Duffy, 2002) in the context of actual reading. This direct style of instruction should involve explaining the strategy as well as modeling or demonstrating how and when to use (Dewitz, Jones, & Leahy, 2009).

How Open Court Reading Applies Research

Open Court Reading teaches critical comprehension strategies and integrates this instruction with close reading strategies. The goal is not just to teach strategies but also to give students the responsibility for applying those strategies to new text. Strategies help students to reflect on their understanding as they read—in other words, to stop and make sense of text. Comprehension instruction begins in grade K, with teachers modeling the use of strategies. As students progress through the grades, they learn to use strategies intentionally and independently. They also dig deeper into the meaning of the text using close reading strategies in order to access complex text. The emphasis shifts to gaining a more focused understanding of the text through its structure, literary techniques, language, and the writer's craft.

See It In Action!

Close Reading

Access Complex Text

INFORM students that during the second read of "The Mice Who Lived in a Shoe" they will *analyze* the text. Explain that this means using different methods to take a closer look at the text.

Before you begin the second read of "The Mice Who Lived in a Shoe," teach the following methods for understanding complex text.

▶ Cause and Effect

Define *Cause and Effect* as "a type of relationship in which one event or situation (a cause) leads to another event or situation (an effect)." Explain that knowing the cause or causes of an outcome helps readers understand how the events in a story are related. In addition, the ability to identify causes helps readers predict possible effects.

As students read, display a Cause and Effect graphic organizer to support students in applying this skill.

Open Court Reading teaches critical comprehension strategies and integrates close reading strategies into learning so that students can apply them to new text.

Writing

What Research Tells Us

Research shows a strong connection between reading and writing. Graham discusses a variety of evidence-based practices for writing instruction that turn students from novice writers into skilled writers (Graham, 2008). These include, but are not limited to, dedicating time to writing, increasing students' knowledge of writing, teaching writing strategies, and teaching basic writing skills to mastery. One example of a skill that should be taught to mastery is handwriting, because it frees the writer to focus on cognitive activities. Ongoing assessment should focus on key features of student writing, such as text organization; clarity of ideas; word usage; sentence variety; legibility; and spelling, grammar, and usage.

How Open Court Reading Applies Research

Open Court Reading teaches students the writing process, the traits or qualities of good writing, and the characteristics of different genres. In addition to learning basic composing processes and strategies—such as pre-writing, drafting, revising, editing, and publishing—students learn skills like handwriting, spelling, sentence construction, grammar, usage, and mechanics. Models of good writing are provided for teaching all phases of the writing process: prewriting, drafting, revising, editing and proofreading, and publishing.

Writing to Inform
Prewriting

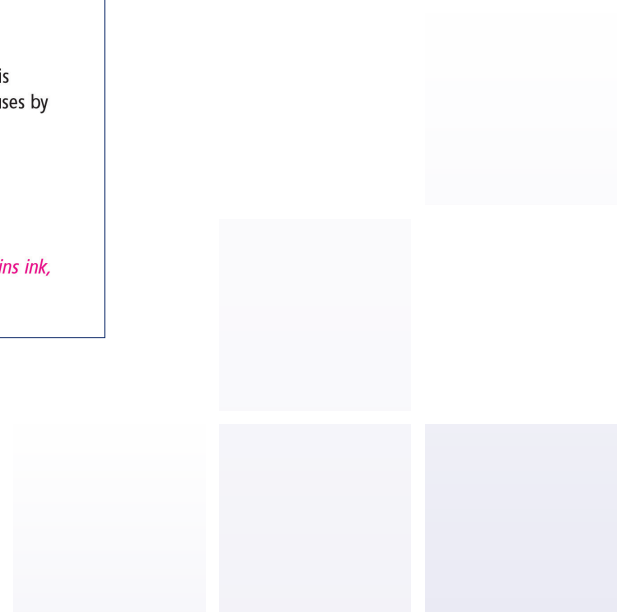### Instruct—Plan Using a Venn Diagram

REMIND students that comparing is describing how two things are alike, and contrasting is describing how they are different. Review the compare-and-contrast signal words and phrases by listing them on the board.

- **Comparing words:** both, also, too, as well

- **Contrasting words:** but, unlike, however, in contrast to, contrary to

○ Model using the words by comparing and contrasting objects in the classroom.
Possible Answers: *Both a pencil and a pen can be used for writing. However, a pen contains ink, and a pencil contains graphite.*

See It In Action!

Through the writing process, students come to understand the importance of words and how authors structure their work. Graphic organizers can help students see how authors structure their compositions and then structure their own writing the same way.

Inquiry

What Research Tells Us

Even very young children develop conceptual understanding by wondering, asking questions, and developing theories about their environment (Carey & Smith, 1993; Kuhn, 2000; Wellman & Gelman, 1998). Inquiry is at the heart of the creative process for scientists, researchers, artists, and all others who are innovative thinkers (Scardamalia & Bereiter, 2003).

How Open Court Reading Applies Research

One of the primary goals of **Open Court Reading** is to form a community of learners. Students learn to take their questions and wonderings and transform them into research questions that focus on problems and issues, develop conjectures, research their ideas, and then share their learning with their classmates. Children are curious by nature and come to school with a wealth of questions. Inquiry capitalizes on this curiosity. Through Inquiry, students use genuine research to seek answers to their questions and solutions to problems. Students use a framework that is based on the scientific method.

See It In Action!

Throughout the unit, the class utilizes the Concept/Question Board to share their growing knowledge about the unit theme or concept. The Concept/Question Board is a place where questions emerge, common interests are identified, and collaborative investigations are started as students move through the unit.

Works Cited

Adams, M., Treiman, R., & Pressley, M. (1997). Reading, writing, and literacy. In I. Sigel, & K. Renninger (Eds.), Handbook of child psychology, 5th edition, Vol. 4: Child psychology in practice (pp. 275–355). New York: Wiley.

Beck, I., & McKeown, M. (1991). Conditions of vocabulary acquisition. In R. Barr, M. Kamil, P. Mosenthal, & P. P. (Eds.), Handbook of reading research (Vol. 2) (pp. 789–814). New York: Longman.

Carey, S., & Smith, C. (1993). On understanding the nature of scientific knowledge. Educational Psychologist 28 (3), 235–251.

Dewitz, P., Jones, J., & Leahy, S. (2009). Comprehension strategy instruction in core reading programs. Reading Research Quarterly 44 (2), 102–126.

Duffy, G. (2002). The case for direct explanation of strategies. In C. Block, & S.R. Pressley (Eds.), Comprehension instruction: Research-based best practices. New York, NY: Guildford Press.

Fletcher, J. M., & Lyon, G. R. (1998). Reading: A research-based approach. In W.M. Evers (Ed.), What's gone wrong in America's Classrooms (pp. 49–90). Stanford, CA: Hoover Institution Press.

Graham, S. (2008). Effective writing instruction for all students. Wisconsin Rapids, WI: Renaissance Learning, Inc.

Heitin, L. (2015). Reading fluency viewed as a neglected skill. Education Week 34 (30), 20.

Henry, M. (1988). Beyond phonics: Integrated decoding and spelling instruction based on word origin and structure. Annals of Dyslexia, 38 258–275.

Kieffer, M. J., & Lesaux, N. K. (2007). Breaking down words to build meaning: Morphology, vocabulary, and reading comprehension in the urban classroom. The Reading Teacher 61 (2) 134–144.

Kuhn, D. (2000). Developmental origins of scientific thinking. Journal of Cognition and Development 1, 113–129.

Lehr, F., Osborn, J., & Heibert, E. (2004). A focus on vocabulary. Honolulu, HI: Regional Educational Laboratory at Pacific Resources for Education and Learning.

Moats, L. (1998). Teaching decoding. American Educator (Spring/Summer), 42–49, 95–96.

Mott, M., & Rutherford, A. (2012). Technical examination of a measure of phonological sensitivity. SAGE Open.

Nagy, W., & Scott, J. (2000). Vocabulary processes. In M. Kamil, P. Mosenthal, P. Pearson, & R. Barr (Eds.), Handbook of reading research (Vol. 3) (pp. 269–284). Mahwah, NJ: Erlbaum.

National Early Literacy Panel. (2008). Developing Early Literacy: Report of the National Early Literacy Panel. Jessup, MD: National Institute for Literacy.

National Institute of Child Health and Human Development. (2000). Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups. Washington, D.C.: U.S. Government Printing Office.

National Institute of Child Health and Human Development. (2000). Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups. Washington, D.C.: U.S. Government Printing Office.

Rack, J., Snowling, M., & Olson, R. (1992). The nonword reading deficit in developmental dyslexia: A review. Reading Research Quarterly 27, 28–53.

Samuels, S., & Farstrup, A. (2006). What research has to say about fluency instruction. Newark, DL: International Reading Association.

Scardamalia, M., & Bereiter, C. (2003). Beyond brainstorming: Sustained creative work with ideas. Education Canada 43, 4–7.

Share, D., & Stanovich, K. (1995). Cognitive processes in early reading development: Accommodating individual differences into a mode of acquisition. Issues in education: Contributions from educational psychology (1), 1–57.

Shaywitz, S. (2003). Overcoming dyslexia. New York: Knopf.

Stanovich, K. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. Reading Research Quarterly, 278–303.

Vellutino, F., Scanlon, D., & Sipay, E. (1997). Toward distinguishing between cognitive and experiential deficits as primary sources of difficulty in learning to read: The importance of early intervention in diagnosing specific reading disability. In B. Blachman (Ed.), Foundations of reading acquisition and dyslexia (pp. 347–379). Mahwah, NJ: Lawrence Erlbaum.

Wellman, H., & Gelman, S. (1998). Knowledge acquisition in foundation domains. In D. Kuhn, & R. Siegler (Eds.), Handbook of child psychology (Vol. 2) (5th ed.) (pp. 523–573). New York: Wiley.