



InfoTrek™

**RESEARCH
REVIEW**

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INTRODUCTION

“Informational text:

- is the key to success in later schooling.
- is ubiquitous in society.
- is preferred reading material for some children.
- often addresses children’s interests and questions.
- builds knowledge of the natural and social world.
- may help build vocabulary and other kinds of literacy knowledge.”

—Duke & Bennett-Armistead, 2003

InfoTrek provides informational texts and lesson plans for guided reading instruction to effectively teach text comprehension, fluency, vocabulary, phonemic awareness, and phonics. *InfoTrek* helps the teacher organize, plan, and integrate reading instruction across the content areas of math, social studies, science, and health. The Teacher’s Notes that accompany each informational book support the teacher by providing clear and explicit direction to deliver focused, differentiated instruction that addresses the needs of all students.

The purpose of this document is to demonstrate how *InfoTrek* links to the latest scientifically based research recommendations for effective literacy instruction. To clearly address the research recommendations of the National Reading Panel, this document is organized into the following strands: Text Comprehension, Vocabulary, Fluency, Phonemic Awareness, and Phonics.

Each strand includes the following sections:

Research Findings on Effective Instruction

This research summary references specific recommendations found in the *Report of the National Reading Panel: Teaching Children to Read* and *Put Reading First: The Research Building Blocks for Teaching Children to Read* and cites primary sources of the reports as well as recent research studies and summaries.

Instruction with *InfoTrek* Guided Reading

This section describes specific instructional features of the guided reading lessons to illustrate how and where *InfoTrek* addresses the research recommendations. Direct references to the guided reading books and accompanying Teacher’s Notes are cited for closer examination.

TEXT COMPREHENSION INSTRUCTION WITH INFOTREK

“Text comprehension is important because comprehension is the reason for reading.

Text comprehension is purposeful and active.”

—*Put Reading First*, 2001, p. 57

Research Findings on Effective Text Comprehension Instruction

Text comprehension research supports explicit teaching of comprehension strategies and scaffolding of instruction to help students become purposeful, active readers who have control over their own reading comprehension. The RAND Reading Study Group, commissioned by the U.S. Department of Education’s Office of Educational Research and Improvement, concluded that “effective teachers of comprehension enact practices that reflect the orchestration of knowledge about readers, texts, purposeful activity, and contexts for the purpose of advancing students’ thoughtful, competent, and motivated reading.” (RAND Reading Study Group, 2002, pp. 29–30) Effective comprehension strategy instruction is built upon the premise that “...elementary students can learn to comprehend actively—they can learn to predict, question, and make mental images, seek to clarify confusions, and summarize as they read.” (Pressley, 1998, p. 220)

Role of the Teacher and Student in Comprehension Strategy Instruction

The teacher’s role of modeling and guiding readers is prevalent in comprehension strategy instruction studies. Tregaskes & Daines (1989) focused on the teacher guiding students to “analyze the reading task, to make efficient plans for purposeful reading, and to use appropriate strategies to enhance their ability to comprehend and reason from the text.” Stevens, Slavin & Farnish (1991) described direct instruction that involved “teachers presenting comprehension and metacomprehension strategies, and students practicing the strategies with teachers guiding them and giving them corrective feedback.” The National Reading Panel defined explicit instruction as teachers giving direct explanation, modeling, guiding, and assisting students as they learn how and when to use the strategies, plus helping students to practice the strategies until they can apply the strategies independently. (*Put Reading First*, 2000) Duke & Pearson (2002) presented a research-based model for comprehension strategy instruction which clearly defines both the teacher’s and student’s role. “The model of comprehension instruction we believe is best supported by research does more than simply include instruction in specific comprehension strategies and opportunities to read, write, and discuss texts—it connects and integrates these different learning opportunities. Instructional method includes explicit description of strategy, teacher and or student modeling of strategy, collaborative use of strategy, guided practice using the strategy with gradual releases of responsibility, and independent use of the strategy.” (Duke & Pearson, 2002, pp. 208–209)

Research-Based Comprehension Strategies

Researchers have identified specific comprehension strategies that help students learn to be strategic readers.

“The following six strategies appear to have a firm scientific basis for improving text comprehension.

- Monitoring comprehension...
- Using graphic and semantic organizers...
- Answering questions...
- Generating questions...
- Recognizing story structure...
- Summarizing..."

—*Put Reading First*, 2001, pp. 49–53

Techniques for Engaging Students

Effective text comprehension instruction fosters students' understanding of comprehension strategies as well as the metacognitive awareness of strategies used to comprehend different types of texts for different purposes. (Pressley, 2002) Student engagement before, during, and after reading is supported by the teacher who encourages students over time to practice, reflect, and flexibly use strategies to solve problems and make meaning from a range of texts. The following research-based techniques are purposeful for students and effective for comprehension strategy instruction with nonfiction texts:

- Building and activating background knowledge before reading engages students during reading to better comprehend the text. (Anderson & Pearson, 1984; Pressley, 2002)
- Modeling the skills and strategies of proficient readers by reading aloud and thinking aloud is effective in enhancing students' comprehension-monitoring abilities. (Bauman, Seifert-Kessell & Jones, 1992)
- Giving students opportunity to discuss expository texts in individual and small-group contexts improves comprehension. (Kucan & Beck, 2003)
- Explicitly teaching about text features and structures helps students to “differentiate among common structures and identify the important information in a text in a coherent, organized way.” (Armbruster & Armstrong, 1993)
- Making young children's experiences with informational text functional and connecting reading and writing of informational texts support reading comprehension and content learning. (Richgels, 2002)
- The use of visual tools improves comprehension by helping students recognize text structure, summarize, and monitor their reading. (Reutzel, 1985; Baumann & Bergeron, 1993; Armbruster, Anderson & Ostertag, 1987)

Text Comprehension Instruction with *InfoTrek* Guided Reading

InfoTrek text comprehension instruction explicitly teaches comprehension strategies and engages students in purposeful activities with informational texts to support and enhance math, social studies, science, and health curriculums. The teacher’s role in explicit instruction involves **explaining and modeling** comprehension strategies, **guiding and assisting** students as they practice using the strategies, **and helping students practice and independently apply** comprehension strategies.

With *InfoTrek* guided reading lessons, the teacher coaches the students as they practice and apply comprehension strategies while reading appropriate instructional level-informational texts. The structure of the lessons—which engages students before, during, and after reading—provides guidance and modeling, yet releases responsibility for reading to the students as they read and reread the text. To view the following highlighted features of text comprehension instruction throughout a guided reading lesson, refer to the *InfoTrek* Teacher’s Notes for *Where Does Food Come From?* (Grade 1) or to a guided reading book and Teacher’s Notes for a grade level of your choice.

- *InfoTrek* guided reading lessons introduce or provide practice with **specific comprehension strategies**. (Skills and Strategies)
- *InfoTrek* guided reading lessons introduce or provide practice with **specific text features**. (Text Features)

Before Reading

- Before Reading discussions and activities explain important words and concepts and explore text features and structures that help engage students as they **access and build the prior knowledge** needed to derive meaning from the informational, instructional-level text. (Before Reading: Activating Prior Knowledge; Introducing the Book)
- Activities designed for ESL–ELL students highlight idiomatic expressions and offer students opportunities to **share and build background** from their home languages. (ESL–ELL)
- Prompts and questions guide students to use the comprehension strategies of **predicting and generating their own questions** to enhance comprehension of the text. (Introducing the Book)

During Reading

- **Nonfiction text structures and features** are highlighted with prompts to encourage students to use their knowledge of content and text structure to comprehend the text. (Reading the Text)
- The teacher supports **guided practice** by coaching and prompting the students during the first reading. (Reading the Text)
- As the students read independently, the teacher assesses and gives them **corrective feedback as they practice and apply comprehension strategies**. Prompts for **monitoring comprehension** help students attend to making meaning as they read. (Reading Independently)

After Reading

- Students have opportunities to share their reactions to the book as they **discuss their predictions, their questions, their use of comprehension strategies, and the text features**. (Revisiting the Text)
- The teacher assesses students' **use of informational text features to integrate information** for comprehension. (Revisiting the Text)
- **Rereading** the book provides the opportunity **for practicing and independently applying comprehension strategies**. (Revisiting the Text)
- Purposeful cross-curricular activities help students **make connections** that link the book's content and structures with content-area learning. (Cross-Curricular Link)
- The Record of Oral Reading assessment provides an opportunity for teachers to **assess student's use of specific comprehension strategies**. (Record of Oral Reading Assessment)
- Blackline master activities **enhance students' comprehension of content** through reading, writing, and hands-on activities. (Blackline Masters)

VOCABULARY INSTRUCTION WITH INFOTREK

“Vocabulary is important because—

- beginning readers use their oral vocabulary to make sense of the words they see in print.
- readers must know what most of the words mean before they can understand what they are reading.”

—*Put Reading First*, 2001, p. 45

Research Findings on Effective Vocabulary Instruction

Vocabulary research—which focuses on developing and increasing students’ listening, speaking, reading, and writing vocabularies—supports indirect and direct teaching of vocabulary in meaningful contexts to enhance comprehension. The National Reading Panel findings indicated that “vocabulary can be developed indirectly, when students engage daily in oral language, listen to adults read to them, and read extensively on their own” and “...directly, when students are explicitly taught both individual words and word learning strategies.” (*Put Reading First*, 2001, p. 45)

“This relationship between vocabulary knowledge and comprehension is extremely complex, confounded, as it is, by the complexity of relationships among vocabulary knowledge, conceptual and cultural knowledge, and instructional opportunities.” (*RAND Reading Study Group*, 2002, p. 35)

Indirect Vocabulary Instruction

Reading aloud to students and providing opportunities for students to interact and participate in the reading enables them to learn vocabulary from book reading. (Blachowicz & Fisher, 2000; Dickinson & Smith, 1994; Senchal, 1997; Morrow & Gambrell, 2000) Wasick & Bond (2001) found that “children whose teachers provided multiple opportunities to interact with vocabulary words learned more book-related vocabulary compared with children who were exposed to just the books.” Book reading enhanced with teacher explanation of vocabulary has been shown to be an effective method for teaching children the meaning of new words. (Brett, Rothlein & Hurley, 1996; Elley, 1989) Penno, Moore & Wilkinson, (2002) found that children acquired new vocabulary from listening to stories, with both the frequency of exposure and the teacher explanation of the target words enhancing vocabulary learning. Repeated exposure to a story was accompanied by “contextually relevant direct explanation” of vocabulary words. (Penno, Moore & Wilkinson, 2002, p. 23)

Direct Vocabulary Instruction

Direct vocabulary instruction involves the selection and teaching of specific words to students at all stages of reading development. Specific words selected for direct instruction relate to context and to students' oral and reading vocabulary knowledge and development. "Vocabulary words should be words that the learner will find useful in many contexts." (National Reading Panel, pp. 4–26) The three types of words suggested for teaching include words that are important for the understanding of a concept or a text; useful words that students see and use frequently; and difficult words, such as words with multiple meanings. (*Put Reading First*, 2001) Graves and his colleagues (Graves et al., 2001) suggest vocabulary instruction that "teaches students to read words already in their oral vocabularies, teaching new labels for known concepts, teaching words representing new concepts, and clarifying and enriching the meanings of already known words." (Graves & Watts-Taffe, p. 143) Biemiller & Slonim, (2001) based their study on root word vocabulary of children in second and fifth grade and found that second-grade children who had a more extensive vocabulary continued to have a larger vocabulary in fifth grade than the lower-performing children in second grade. The implications from their findings suggest that "greater efforts should be made to foster vocabulary acquisition in the primary years and that a rough vocabulary curriculum sequence can be identified for the elementary years." (Biemiller & Slonim, 2001, p. 498)

"Vocabulary instruction is most effective when learners are given both definitional and contextual information, when learners actively process the new word meanings, and when they experience multiple encounters with the words." (Graves & Watts-Taffe, 2002, p. 143)

Direct vocabulary instruction helps students develop effective word-learning strategies to utilize when they are reading. Research-based word learning strategies include using context clues, word parts, and dictionaries and reference aids. (*Put Reading First*, 2001) Teaching students to use context clues to determine meaning has been shown to provide an advantage to students as they integrate words and context. (Fukkink & de Glopper, 1998; Graves & Watts, 2002; McKeown et al., 1985) Effective instruction in using word parts includes teaching affixes, base words, and root words. (*Put Reading First*, 2001). Bauman and colleagues (Baumann et al., 2002) examined the effects of instruction in morphemic analysis (select prefixes) and contextual analysis (select context clue types). They validated that students were just as effective at inferring word meanings when the two types of instruction were provided in combination as when they were presented separately.

Vocabulary Instruction with *InfoTrek* Guided Reading

InfoTrek provides direct and indirect vocabulary instruction and multiple opportunities for students to learn and use new vocabulary words in different contexts. High-frequency words, as well as content words, are identified and directly and indirectly taught in *InfoTrek* kindergarten and grade 1 guided reading lessons. Content words are stressed in the Teacher's Notes for grade 2 and grade 3. With *InfoTrek* guided reading lessons, students learn vocabulary indirectly from reading and with direct instruction as the teacher guides them in discussion and explanation of important vocabulary words and concepts when needed, and introduces them to a variety of word-learning strategies. Students read instructional-level books with the appropriate count of high frequency and content words to develop vocabulary. To view the following highlighted features of vocabulary instruction throughout a guided reading lesson, refer to the *InfoTrek* Teacher's Notes for *The Farm* (Kindergarten) and *Where Does Food Come From?* (Grade 1) or to a guided reading book and Teacher's Notes for a grade level of your choice.

Before Reading

- Teacher-directed text introductions may include teaching the **words that are important for the understanding of a content area concept or the text to enhance vocabulary learning and comprehension**. (Activating Prior Knowledge)
- Activities designed for ESL–ELL students offer students opportunities to learn new vocabulary and to **share vocabulary** from their home languages. (ESL–ELL)

During Reading

- Discussions and responses to the text provide opportunity for teachers to **explain vocabulary words** and for the students to **practice using the vocabulary words**. (Reading the Text)
- Teacher explanation and prompts help students **use context clues** and **decoding strategies** to determine meaning as they integrate words within meaningful context. (Reading the Text)
- As the students read independently, the teacher **assesses their use of vocabulary strategies**. (Reading Independently)

After Reading

- Rereading the guided-reading book provides **multiple encounters with the words** to help students process new word meanings. (Revisiting the Text)
- **Direct vocabulary instruction on word learning strategies such as analyzing word parts, base-word and root-word meaning, and affixes and endings** is accomplished by using manipulatives for word building and sentence construction. (Working with Words)
- Cross-curricular reading and writing activities provide opportunities for students to **write and practice the vocabulary words** from the book to increase their reading, speaking, and writing vocabulary. (Cross-Curricular Link)
- Blackline master activities provide opportunities for students to **practice and use the content area vocabulary words** with reading, writing, and hands-on activities. (Blackline Masters)

FLUENCY INSTRUCTION WITH INFOTREK

“Fluency is the ability to read a text accurately and quickly. Fluency is important because it frees students to understand what they read.”

—*Put Reading First*, 2001, p. 31

Research Findings on Effective Fluency Instruction

Research on fluency instruction, which focuses on how fluency develops and how it relates to comprehension, supports approaches that provide opportunities for students to listen to good models of fluent reading and to practice through repeated and monitored oral reading. The National Reading Panel (2000) concluded that repeated and monitored oral reading that involved guidance from teachers, peers, or parents had a significant impact on word recognition, fluency, and comprehension across a range of grade levels.

“Fluency is the ability to read a text accurately and quickly. Fluency is important because it provides a bridge between word recognition and comprehension. Because fluent readers do not have to concentrate on decoding words, they can focus their attention on what the text means.”
(*Put Reading First*, 2001)

Texts for Fluency Instruction

The report of the National Research Council, *Preventing Reading Difficulties in Young Children* (Snow, Burns & Griffin, 1998), stated, “Adequate progress in learning to read English (or any other alphabetic language) beyond the initial level depends on sufficient practice in reading to achieve fluency with different kinds of texts written for different purposes.” (p. 223) Appropriate levels of texts used in fluency instruction expose students to a variety of fiction genres and nonfiction text types. *Put Reading First* (2001) recommended that students practice repeated oral reading with connected texts at their independent reading level and that teachers provide a variety of genres, such as stories, nonfiction, and poetry. Rasinski (2000) suggested that the selections for fluency instruction are written in the reader’s independent instructional range and are meant to be read aloud with expression. In their review of repeated reading practice and assisted reading studies, Kuhn and Stahl (2000) concluded that having children read easy texts for instruction did not seem to improve their oral reading and that texts might be at instructional level or a bit more difficult. They recommended that the ideal classroom provided time for instruction using somewhat challenging texts and time for recreational reading with relatively easy texts.

“Teachers should formally and informally assess fluency regularly to ensure that students are making progress.... The most informal assessment is simply listening to students read aloud and making a judgment about their progress in fluency.... Other procedures that have been used for measuring fluency include Informal Reading Inventories, miscue analysis, and running records.”
(*Put Reading First*, 2001, pp. 22)

Small-Group Instruction and Fluency

Small-group reading instruction is an effective approach for helping students develop fluency and confidence as readers. The teacher models fluent reading and explains specific oral reading strategies, and the students practice oral reading. The teacher reading aloud provides a model of fluent reading that helps students learn what fluency sounds like in fiction and nonfiction texts. (Armbuster, Lehr & Osborne, 2001; Worthy & Broadus, 2002) Allinder and colleagues (2001) found that students who were taught and encouraged to use specific oral reading strategies made better progress on comprehension measures than students who were simply encouraged to do well. The oral reading strategies included reading with inflection, not adding words, pausing at commas and periods, self-monitoring for accuracy, reading at an appropriate pace, and attending to word endings. The students who were engaged in small group reading instruction were willing to read orally and “profited when encouraged to apply a specific oral reading strategy while engaging in small-group reading instruction.” (Allinder et al., p. 54) Samuels (2002) contends in his review of research that repeated reading practice produces significant improvement in reading speed, word recognition, and oral reading expression on practiced passages and that the ability to read orally like a skilled reader after a few rereadings of a text builds confidence in readers with poor oral reading skills.

Effective approaches for fluency instruction engage and assist students with oral reading as they listen and practice by reading, rereading, and performing. In their review of repeated and assisted oral reading studies, Kuhn and Stahl (2000) found that assisted approaches, such as reading-while-listening, seem to be more effective than unassisted approaches such as just repeated reading. Both repeated readings and listen-while-reading were effective in fostering fluency in a study of the two approaches. (Rasinki, 1990) Recommended classroom techniques for repeated oral reading practice include student-adult reading; choral reading; tape-assisted reading; and partner reading. (*Put Reading First*, 2001)

Fluency Instruction with *InfoTrek* Guided Reading

InfoTrek provides multiple opportunities for students to listen to models of fluent reading, to learn specific oral reading strategies, and to practice repeated oral reading with guidance and feedback from teachers, peers, and parents. The *InfoTrek* guided reading books offer a wide range of leveled fiction and nonfiction texts for **modeling and practicing expressive, fluent reading**.

With *InfoTrek* guided reading lessons, the teacher models fluent reading and coaches students as they read and reread to practice fluency. The small-group setting enables the teacher to listen to students read orally, give students feedback, and assess their reading fluency before, during, and after reading. To view the following highlighted features of fluency instruction throughout a guided reading lesson, refer to the *InfoTrek* Teacher’s Notes for *The Farm* (Kindergarten) and *Where Does Food Come From?* (Grade 1) or to a guided reading book and Teacher’s Notes for a grade level of your choice.

The **instructional-level books** provide challenges to help students practice and improve their oral reading fluency.

- The teacher observes and assists as students **read orally**. (Reading Independently)
- Students may **reread the text together as a group, with a partner, or independently to practice repeated reading**. (Revisiting the Text)
- Extension activities offer ideas for **repeated reading** to help students develop reading fluency. (Reading with Fluency)
- **Student and adult reading** is encouraged with school-to-home connections to provide students with an additional opportunity for repeated reading practice with feedback. (At Home Activities, found on the inside back cover of the book)
- Blackline master language activities provide students with opportunities to **read their own writing to practice fluency**. (Blackline Masters)

PHONEMIC AWARENESS INSTRUCTION WITH INFOTREK

“Phonemic awareness is important because—

- it improves children’s word reading and reading comprehension.
- it helps children learn to spell.”

—*Put Reading First*, 2001, p. 10

Research Findings on Effective Phonemic Awareness Instruction

Phonemic awareness research, which focuses on the relationship of phonemic awareness and early reading development, supports explicit phonemic awareness instruction that helps students hear individual sounds, identify sounds, and manipulate sounds in spoken language as they learn to read words, spell words, and comprehend text. As part of a comprehensive reading program, “phonemic awareness instruction is more effective when it was taught with letters than without letters, when one or two PA skills were taught than multiple PA skills, when children were taught in small groups than individually....” (Ehri et al., 2001)

Effective phonemic awareness activities engage students in manipulating and segmenting phonemes. “Phonemic awareness can be developed through a number of activities, including asking children to:

- identify phonemes
- categorize phonemes
- blend phonemes to form words
- segment words into phonemes
- delete or add phonemes to form new words, and
- substitute phonemes to make new words.”

—*Put Reading First*, 2001, pp. 5–6, 10

Teaching Phonemic Awareness with Letters

Integrating phonemic awareness instruction with the teaching of letters helps students develop as readers, writers, and spellers. Phonemic awareness instruction, which happens when students are taught to manipulate phonemes by using the letters of the alphabet, makes a stronger contribution to reading and spelling than when instruction is limited to phonemes alone. (*Put Reading First*, 2001) Bus and van Ijzendoorn (1999) found that phonemic awareness training combined with letter-sound knowledge was more effective than phonemic awareness training alone. Castiglioni-Spalten and Ehri (2003) found that students who were taught to segment words with both articulatory instruction and Elkonin boxes (Elkonin, 1973) performed better on decoding measures than students who were trained with Elkonin boxes alone. The researchers’ interpretation suggests that awareness of articulatory gestures facilitates graphophonemic connections, which helps students identify and remember written words. Fuchs and colleagues (2001) found that a treatment group participating in a phonological awareness training with beginning decoding instruction did better on alphabetic (reading and spelling) tasks.

Frost (2001) examined the relationship between phonemic awareness and reading and spelling and focused on the development of early self-directed writing. He concluded that phonemic awareness is an important prerequisite in the development of functional letter knowledge and basic word processing skills and that functional letter competence seems to emerge on the basis of phonemic awareness through word production and through invented-spelling activities. Dixon, Stuart & Masterson (2002) found that children’s phoneme segmentation ability was related not only to learning words more quickly, but also to “building up detailed representation useful for reading, proofreading and eventually spelling.” (p. 313)

“[Instruction] that heightens phonological awareness and that emphasizes the connections to the alphabetic code promotes greater skill in word recognition—a skill essential to becoming a proficient reader.” (Blachman, 2000, p. 495)

Phonemic Awareness Instruction with *InfoTrek*

Guided Reading

InfoTrek provides explicit phonemic awareness instruction with purposeful phonemic awareness activities to help students hear individual sounds, identify sounds, and manipulate sounds.

InfoTrek guided reading lessons integrate phonemic awareness instruction with the teaching of letters, and the teacher models her thinking and guides students as they focus on sounds during small group instruction. The Teacher's Notes for each *InfoTrek* guided reading lesson includes Working with Words activities to focus on phonemic awareness. Hands-on activities involve the use of sound and word-study manipulatives such as the Reading Rods® Alphabet and Phonemic Awareness Kit. The words used with phonemic awareness activities are selected from the *InfoTrek* books to focus specifically on **one of the types of sound manipulation**.

- **Phoneme identity** activities guide students to listen for and identify the same sound in different words.
- **Phoneme isolation** activities guide students to recognize specific sounds in words.
- **Phoneme blending** activities guide students to listen to a sequence of spoken phonemes and blend the sounds to form new words.
- **Phoneme categorizing** activities guide students to listen to a set of words and determine the word that does not match the beginning, middle, or end sound of the others.
- **Phoneme segmentation** activities guide students to listen to sounds heard in words and determine which sounds and how many sounds they hear.
- **Phoneme deletion** activities guide students to identify the word or word part left over when a phoneme is deleted from the word.
- **Phoneme addition** activities guide students to identify a new word or word pattern created when a phoneme is added to a word.
- **Phoneme substitution** activities guide students to listen and recognize where one phoneme is substituted for another to make a new word.

To view the phonemic awareness activities throughout a small-group guided reading lesson, refer to the *InfoTrek* Teacher's Notes for *The Farm* (Kindergarten). (After Reading: Revisiting the Text; Working with Words)

PHONICS INSTRUCTION WITH INFOTREK

“Phonics instruction helps children learn the relationships between the letters of written language and the sounds of spoken language. Phonics instruction is important because—

- it leads to an understanding of the alphabetic principle—the systematic and predictable relationships between written letters and spoken sounds.”

—*Put Reading First*, 2001, p. 19

Research Findings on Effective Phonics Instruction

Phonics instruction research, which focuses on why phonics instruction is important to early reading development and how to best teach phonics, supports explicit, systematic phonics instruction integrated into a total literacy program. Adams (1990) acknowledged that “deep and thorough knowledge of letters, spelling patterns, and words, and of the phonological translation of all three, are of inescapable importance to both skillful reading and its acquisition.” (p. 416)

Teaching Phonics Skills

The National Reading Panel determined that “systematic and explicit phonics instruction is more effective than nonsystematic or no phonics instruction.” (*Put Reading First*, p. 13) Systematic phonics is the direct teaching of letter-sound relationships in a clearly defined sequence, and the set includes major sound/spelling relationships of both consonants and vowels. In a recent key study in which the results support the findings of the National Reading Panel, Connelly and colleagues (2001) investigated whether two groups of beginning readers taught to read by a systematic phonics approach and a “book experience” non-phonics approach would differ in reading comprehension and in the processes of word recognition. The two groups matched for word recognition, but the phonics group had higher comprehension scores, produced more contextually appropriate errors, and made more attempts at reading unknown words when reading text. Research studies focusing on specific phonics skills indicate that students benefit from the direct instruction. Foorman and colleagues (1991) found that instruction in segmenting and blending sounds helps students relate their knowledge of regular word spellings to correct word readings and that such instruction leads to accelerated growth. Haskell, Foorman & Swank (1992) investigated whether instruction at the onset-rime level improved word reading accuracy more than instruction at the phoneme or whole-word level. Results indicated that the onset-rime and phoneme groups read words more accurately than the whole-word groups.

“Programs of phonics instruction are effective when they are—

- systematic—the plan of instruction includes a carefully selected set of letter-sound relationships that are organized into a logical sequence.
- explicit—the programs provide teachers with precise directions for the teaching of these relationships.”

—*Put Reading First*, 2001, p. 19

Phonics Activities

Effective phonics instruction provides opportunities for students to transfer the phonics skills to their reading and writing. In their review of scientific research on phonics instruction, Cunningham and Cunningham (2002) concluded that “children need to develop phonemic awareness and sequential decoding and have regular opportunities to apply their phonics skills.” *Put Reading First* recommended that students should be “solidifying their knowledge of the alphabet, engaging in phonemic awareness activities, and listening to stories and informal texts read aloud to them. They should also be reading texts (both out loud and silently) and writing letters, words, messages, and stories.” (*Put Reading First*, 2001, p.15) In reviewing research on the types of texts students should read to practice phonics skills, Cunningham and Cunningham (2002) determined that researchers are in general agreement that students need text in which they have to apply their decoding skills to some words, but there does not seem to be support in research for exclusively using decodable texts. Heibert (1999) recommends that children should read texts that provide practice with high-frequency words, along with opportunities to apply decoding skills and to use meaning-based cues. She suggests that children be exposed to some texts that are more sight-word oriented, to some that are more decoding oriented, and to some that are more meaning-cue oriented so that they learn to use all the word-identification cues fluent readers use. Cunningham and Cunningham (2002) concluded that phonics instruction, like all reading instruction, must be as multifaceted and multileveled as possible. They recognized self-selected reading and guided reading and writing as effective approaches for scaffolding and integrating phonics instruction.

Research-based activities involve “teaching children orthographic patterns and analogy decoding, as well as morpheme patterns common in multisyllabic words.” (Cunningham & Cunningham, 2002, p. 107) The use of manipulative activities is effective for explicitly teaching these phonics skills and for students to transfer their learning of the phonics skills. Laurice (2000) compared first-grade students who received phonics instruction with the Word Boxes manipulatives and students who were trained with a traditional phonics program. With the Word Boxes, students segmented words into individual phonemes with counters and placed the counters in boxes to represent each phoneme. Then the counters were replaced with letters and the students segmented the words using the letters and writing the letters in the boxes. The findings indicated that the students who received instruction with Word Boxes had better decoding and spelling skills. Other manipulative activities—such as using letter and word cards to blend, sort, rhyme, and use patterns—engage students with letters, sounds, and words so they learn to use phonics skills to decode and comprehend.

Phonics and Reading Programs

The National Reading Panel, while identifying the need for systematic and explicit phonics instruction, also stresses the importance of a comprehensive reading program that focuses on all areas of reading instruction.

“It is important to emphasize that systematic phonics instruction should be integrated with other reading instruction to create a balanced reading program. Phonics instruction is never a total reading program. Phonics should not become the dominant component in a reading program, neither in the amount of time devoted to it nor the significance attached. It is important to evaluate children’s reading competence in many ways; not only by their phonics skills but also by their interest in books and their ability to understand information that is read to them. By emphasizing all of the process that contribute to growth in reading, teachers will have the best chance of making every child a reader.”

—*National Reading Panel*, 2000, Section 2, p. 136

Phonics Instruction with *InfoTrek* Guided Reading

InfoTrek helps the teacher facilitate systematic and explicit phonics instruction that is integrated into the literacy program. Meaningful phonics instruction is an important feature in each *InfoTrek* guided reading lesson plan. Each lesson offers a range of activities to give students the tools they need to practice, reinforce, extend, and support their knowledge of sounds and letters. Both explicit and inquiry phonics activities encourage children to pay attention to visual details in words. Phonics skills taught in *InfoTrek* include naming and identifying letters of the alphabet, consonant sounds, blends (initial, middle, final), digraphs, short and long vowels, vowel patterns, and word families.

With *InfoTrek* guided reading lessons, teachers direct students' attention to the features of words and strategies for decoding words. Students read instructional-level fiction and nonfiction books with features that provide practice with high-frequency words and **opportunities to apply decoding skills** and use meaning-based cues.

To view the following highlighted features of phonics instruction throughout a guided reading lesson, refer to the *InfoTrek* Teacher's Notes for *Where Does Food Come From?* (Grade 1) or to a guided reading book and Teacher's Notes for a grade level of your choice.

- Guided reading lessons identify phonics **skills explicitly taught** with the reading of the book. (Working with Words)
- The teacher models how to take words apart and **apply phonics skills** to new words they meet in the connected text. (Working with Words)
- Each *InfoTrek* lesson includes a Reading Rods® activity to **focus on sound-letter relationships and word families**. (Working With Words)
- **Writing activities** offer another context for students to **apply their knowledge of sounds and letters**. (Revisiting the Text)
- The Record of Oral Reading assessments provide opportunity for teachers to **assess student's use of phonics skills**. (Record of Oral Reading Assessment)

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