Research Foundation Paper

ReadAbout: A Summary of Research



READABOUT PROGRAM OVERVIEW

Research has shown that many students who do well in the lower elementary grades suddenly struggle when they reach the upper elementary grades, because the text they read in areas such as science and social studies contains new vocabulary, unfamiliar text structures, and content beyond their knowledge and experience (Chall, Jacobs, and Baldwin, 1990). This decline is often called the 4th grade slump (Chall et al., 1990).

Two of the main reasons for this decline are: 1) a significant change in academic tasks between third and fourth grade and 2) a shift in emphasis from fiction to nonfiction text.

To address this challenge, Scholastic developed *ReadAbout*, a breakthrough reading program that uses adaptive technology to focus on the three key components of reading achievement in the upper elementary grades: comprehension skills and strategies, vocabulary, and content-area knowledge. Students using *ReadAbout* receive direct instruction and practice in the **comprehension skills and strategies** crucial to extracting meaning from nonfiction texts. *ReadAbout* presents a rigorous yet motivating approach to **vocabulary** instruction, in which students learn grade-appropriate academic and content-area words. Throughout the program, students build **background knowledge in the content areas**. Background knowledge helps students create mental models to facilitate cross-curricular academic success.

The *ReadAbout* software differentiates instruction for every student and collects data for continuous assessment and further data-driven instruction in the classroom. Using *ReadAbout* reports, teachers can prescribe additional instruction and practice for individuals and small groups in comprehension skills and vocabulary. Student print materials include leveled reading cards that are directly linked to each topic in the software. The cards are designed to promote transference of skills by building upon students' newly acquired comprehension skills, vocabulary, and content-area knowledge.

Each *ReadAbout* topic provides multiple opportunities to write in response to text both in the software and in supplemental print materials. Responding to text in both expository and narrative formats deepens student comprehension of text.

It is recommended that students work independently on the *ReadAbout* software a minimum of twice a week and with the print materials at least once a week. The program is designed to supplement any existing core reading program easily and flexibly.

TABLE OF CONTENTS

READABOUT RESEARCH FOUNDATION PAPER

| ReadAbout Research Foundations | 2 |
|---|-------|
| Comprehension | 4 |
| Increasing Comprehension Abilities | 4 |
| Instruction and Modeling | 5 |
| Vocabulary | 6 |
| Vocabulary and Comprehension | 6 |
| Vocabulary Instruction | 6 |
| Nonfiction Reading in the Content Areas | 7 |
| Distinctive Aspects of Reading Nonfiction | 7 |
| Nonfiction Reading in the Upper Elementary Grades | 7 |
| Writing in the Service of Reading | 8 |
| Writing in the Service of Reading. | 8 |
| The 6+1 Trait® Writing Model | 8 |
| Anchored Instruction | 9 |
| Anchored Instruction | 9 |
| Creating Mental Models | 9 |
| Differentiated Instruction | 10 |
| Leveling Text | 10 |
| The Benefits of Adaptive Technology | 10 |
| Continuous Assessment | 11 |
| Assessment and Comprehension Instruction | 11 |
| The Role of Technology in Assessment | 11 |
| Motivation | 12 |
| Motivation and Nonfiction Reading | 12 |
| Motivation in the Classroom | 12 |
| Instructional Sequence | 13 |
| References | 14–16 |
| ReadAbout Researchers and Further Reading | 17 |

READABOUT RESEARCH FOUNDATIONS

ReadAbout draws on a foundation of research in eight topics: 1) comprehension; 2) vocabulary; 3) nonfiction reading in the content areas; 4) writing in the service of reading; 5) anchored instruction; 6) differentiated instruction; 7) continuous assessment; and 8) motivation.

1) Comprehension

ReadAbout provides instruction and practice in the following skills and strategies:

| Skills | Strategies |
|---------------------|-------------------|
| Author's Purpose | Visualizing |
| Main Idea & Details | Setting a Purpose |
| Draw Conclusions | Monitoring |
| Fact & Opinion | Rereading |
| Make Inferences | Summarizing |
| Cause & Effect | Questioning |
| Compare & Contrast | Repairing |
| Sequence of Events | |
| Summarize | |

2) Vocabulary

ReadAbout provides direct instruction on 15 leveled vocabulary words in each of 70 topics. The vocabulary was selected from research-based and grade-level lists, and is comprised of 70% academic and 30% content-area words. When English-language settings are enabled, *ReadAbout* translates word meanings to Spanish, and provides Spanish cognates where applicable.

3) Nonfiction Reading in the Content Areas

ReadAbout provides instruction and practice in expository text structures, including encyclopedia articles, magazine articles, newspaper articles, letters, journal entries, Web sites, and nonfiction books. Students in ReadAbout choose leveled reading material from 70 topics in the following subjects:

| Science | Social Studies | Life / Humanities |
|------------------|------------------|---|
| Physical Science | American History | Arts & Entertainment |
| Earth Science | World Culture | Your America |
| Life Science | Geography | Wild Card (Technology, Work, Legal, Humanities) |



READABOUT RESEARCH FOUNDATIONS

CONTINUEI

4) Writing in the Service of Reading

Software passages build background in a topic before students practice constructed response to content-related prompts. Lessons in writing types and the 6+1 Trait® lessons extend writing opportunities

5) Anchored Instruction

ReadAbout pre-teaches or activates prior knowledge to help students build the background knowledge and mental models that prepare them to learn. Each of the 70 topics and 10 comprehension skills are introduced using anchored instruction.

6) Differentiated Instruction

All content in *ReadAbout* is leveled. The *ReadAbout* software adapts text level, direct instruction, remediation, and activities based on individual student performance. Content is prioritized based on the instructional needs of the student.

7) Continuous Assessment

The software monitors and evaluates progress on an ongoing basis to modify instruction and meet each student's changing needs. Immediate feedback, targeted corrective feedback, and challenges based upon performance help students achieve success. Comprehensive reports allow teachers to monitor student progress and tailor instruction based on performance.

8) Motivation

Intrinsic and extrinsic motivational strategies are incorporated throughout the design of *ReadAbout*. The *ReadAbout* software allows students to choose topics that interest them. After reading, students measure progress and performance through a game-like rewards system that integrates instruction with digital collectibles. These strategies are designed to create a passion for learning.

This Summary of Research addresses the eight research topics integral to the development of *ReadAbout*. In each synopsis, the research base on the topic is summarized and is accompanied by an outline of the ways in which *ReadAbout* directly supports the research.

For more information about *ReadAbout*'s instructional sequence, see page 13.

COMPREHENSION

Proficient readers perform a variety of mental activities to help them monitor and increase comprehension as they read, and repair comprehension when it breaks down (Flood, Lapp, and Fisher, 2003).

RESEARCH EVIDENCE

Increasing Comprehension Abilities

Explicit, direct instruction is needed to improve students' reading comprehension (Duke and Pearson, 2002; National Reading Panel, 2000). Pressley (2001) indicated that instruction aimed at increasing comprehension abilities should be focused on "improving word-level competencies, building background knowledge, and promoting the use of comprehension strategies."

Reading is a complex cognitive process that is socially based and constructed, and readers often lack the comprehension skills necessary to understand challenging texts (National Reading Panel, 2000). Expository text, in particular, is often so dense and filled with unfamiliar vocabulary that students must "perform fairly complex cognitive tasks to extract, summarize, and synthesize its content" (Lapp, Flood, and Ranck-Buhr, 1995).

- ReadAbout provides direct instruction in 10 key nonfiction comprehension skills: Author's Purpose; Main Idea & Details; Draw Conclusions; Fact & Opinion; Problem & Solution; Make Inferences; Cause & Effect; Compare & Contrast; Sequence of Events; and Summarize. These are the most important comprehension skills. This carefully chosen set of skills is taught, reinforced, and practiced continually and uses many text types to ensure student mastery and facility with strategy application.
- ReadAbout promotes seven critical comprehension strategies: Visualizing; Setting a Purpose; Monitoring; Rereading; Summarizing; Questioning; and Repairing.
- Before students begin reading passages in the software, *ReadAbout* anchors instruction by introducing each topic with an engaging video. These Anchor Videos provide background knowledge to help students develop mental models that will support them as they read.
- ReadAbout's supported and scaffolded environment allows students of any reading ability to interact with text structures and vocabulary that may normally be outside of their realm of familiarity. By delivering content in common expository text structures and providing tools to unlock structures, ReadAbout guides students to learn strategies that help them access expository text. (Refer to page 11 for further details about nonfiction text structures.) In addition, the leveling in ReadAbout promotes students' ability to acquire strategies through accessible text. Other key supports include direct instruction in academic and content-area vocabulary words, which increases a student's ability to access expository text.



COMPREHENSION

CONTINUED

RESEARCH EVIDENCE

Instruction and Modeling

Often, reading instruction in elementary school is skewed toward fiction (Duke, 2000). Research shows that students need to use models for the specific strategies they use to read content-rich text (Saul and Dieckman, 2005). These strategies include asking questions before, during, and after reading; creating mental images; determining main ideas; monitoring comprehension throughout reading; repairing comprehension when needed; drawing inferences during and after reading; and synthesizing information (Saul and Dieckman, 2005).

Duke and Pearson (2002) recommend a model of comprehension instruction that includes the following five components: 1) an explicit description of the strategy and when and how it should be used; 2) teacher and/or student modeling of the strategy in action; 3) collaborative use of the strategy in action; 4) guided practice using the strategy with gradual release of responsibility; and 5) independent use of the strategy.

- Before every passage in the software, students encounter a question that sets the purpose of reading. The question highlights the nonfiction comprehension skill that will be the focus of that passage.
- Every *ReadAbout* passage, whether in the software or in the print materials, is written to teach one nonfiction skill. Signal words and other useful constructions are employed in the passage to support comprehension. As they progress through the software, students also collect virtual "skill cards" that they can refer to while reading to refresh their understanding of the comprehension skills.
- After reading the first page of a passage in the software, students encounter a comprehension question that encourages self-monitoring and returning to the text to find answers.
- Prior to reading, students watch and respond to a brief skill video that activates existing knowledge and models how the comprehension skill is used.
 Students are introduced to signal words and are guided through questions before applying the skill to text.
- Comprehension instruction in the software and in print materials follows a Teach, Model, Guided Practice, Apply format.
- Comprehension is assessed in a variety of ways.
 Students are required to highlight specific text evidence to answer questions and support answers.
 They also answer multiple-choice questions and use graphic organizers.

VOCABULARY

Vocabulary knowledge is directly linked to reading comprehension in the later grades (Juel and Deffes, 2004).

RESEARCH EVIDENCE

Vocabulary and Comprehension

Numerous studies have documented the strong relationship between vocabulary knowledge and academic achievement (e.g., Beck, McKeown, and Kucan, 2002; National Reading Panel, 2000; Stahl, 1998). There is also a mutually beneficial and reciprocal relationship between vocabulary knowledge and reading comprehension (Baumann and Kame'enui, 2004; McKeown, Beck, Omanson, and Perfetti, 1983). Kamil and Hiebert (2005) describe vocabulary as the bridge between word decoding and reading comprehension. Because understanding a text depends on knowing the meanings of most of its words, an ample vocabulary is crucial to reading achievement. The earlier children acquire a large vocabulary, the better their comprehension will be in later grades (Hirsch, 2006). Building vocabulary is particularly crucial for Englishlanguage learners. Research has demonstrated that low vocabulary development is a major determinant of poor reading comprehension for students learning English as a second language (Garcia, 1991; Nagy, 1997; Verhoeven, 1990).

Vocabulary Instruction

Intentional, explicit teaching of vocabulary words has been shown both to increase the size of students' vocabularies and improve their comprehension of texts containing these words (McKeown, Beck, Omanson, and Pople, 1985; Stahl and Fairbanks, 1986). Research has demonstrated that multiple exposures to a word are essential for word learning. Successful vocabulary programs present new words repeatedly and in different contexts (e.g., McKeown, Beck, Omanson, and Perfetti, 1983). Repetition is also important to ensure that students maintain new words after initial instruction by using and thinking about the words until they become part of the students' working vocabulary (Beck and McKeown, 2001).

READABOUT SUPPORT

- Before introducing each passage, *ReadAbout* teaches five key vocabulary words. In addition to this targeted vocabulary, students using the software can use the mouse to seek out pronunciations and meanings for many other words in each passage. The software also explains idioms as they occur in *ReadAbout* passages.
- *ReadAbout*'s vocabulary words were selected from the Coxhead; Harris-Jacobson; and grade-level text lists. Targeted vocabulary is a mix of 70% academic and 30% content-area words.
- ReadAbout supports English-language learners with word meanings that are translated into Spanish and read aloud. The program also provides audio support for Spanish cognates.

- ReadAbout teaches academic and content-area words through research-based routines based upon Feldman and Kinsella's (2005) sequence of Pronounce, Explain, Provide Examples, Elaborate, and Assess.
- Students receive multiple exposures to new vocabulary words as they progress through a topic.
- In the software, students build and "collect" interactive vocabulary cards through engagement in progressively more challenging word activities.

Further Reading

Feldman, K., and Kinsella, K. (2005). Narrowing the language gap: The case for explicit vocabulary instruction. Scholastic Professional Paper. New York: Scholastic Inc.



NONFICTION READING IN THE CONTENT AREAS

Learning to use strategies for reading nonfiction texts is crucial to students' academic success (Duke and Bennet-Armistead, 2003).

RESEARCH EVIDENCE

Distinctive Aspects of Reading Nonfiction

Nonfiction text differs from fiction text in several important ways. First, nonfiction text emphasizes topics in the natural or social world and contains vocabulary specific to these areas that is often new to students. Thus, students must perform complex cognitive tasks to understand such content.

Furthermore, readers usually have different goals when reading nonfiction than when reading fiction. Nonfiction readers may read to learn facts, comprehend theories, or understand how something works. In addition, different nonfiction text structures have different conventions, or "rules." Explicit teaching of expository structures enables students to identify important information in an organized way (Armbruster and Armstrong, 1993).

Nonfiction Reading in the Upper Elementary Grades

Although studies show that students often prefer nonfiction texts (Caswell and Duke, 1998), reading choices in elementary school are often skewed toward fiction (Duke, 2000; Pressley, Rankin, and Yokoi, 1996). This lack of experience with nonfiction text may help explain why some students experience the upper elementary "slump." Students who do well in lower grades suddenly struggle because the textbooks they read in areas such as science and social studies contain new vocabulary, unfamiliar text structures, and content beyond their knowledge and experience (Chall, Jacobs, and Baldwin, 1990). Moreover, the importance of nonfiction is being reflected in the greater attention now being given to nonfiction texts on standardized tests for students in the upper elementary grades (Saul and Dieckman, 2005).

READABOUT SUPPORT

- Before students read passages in the software, they watch a brief, animated video about the content of the reading. The video provides a schema for the information that is to come, and helps students build a mental model.
- Students learn the conventions of seven different nonfiction text structures, including newspaper and magazine articles, books, encyclopedias, journals, letters, and Web sites. Text Type Lessons in the print materials provide guidelines for explicitly teaching the conventions of these major text types, and the software reinforces this information with a Text Type Tutor help feature.

- *ReadAbout* provides differentiated comprehension instruction in 10 key skills critical to understanding nonfiction text.
- *ReadAbout* supports the development of students' nonfiction reading skills through the use of maps and graphs.
- The Assessment, Reports, and Differentiated Instruction (ARDI) Guide contains differentiated-instruction lesson plans that demonstrate how to support students of all levels as they develop a variety of comprehension strategies for reading nonfiction.
- Writing prompts in the software and offline provide students with opportunities to write in response to nonfiction texts.

Further Reading

Wilhelm, J. D. (2005). Inquiring minds learn to read. Scholastic Professional Paper. New York: Scholastic Inc.

Writing in the Service of Reading

Writing in response to text enables students to clarify their thinking and communicate their ideas to others (Culham, 2003).

RESEARCH EVIDENCE

Writing in the Service of Reading

Poor readers are at risk of becoming poor writers (Juel, 1988). Conversely, students who have developed an awareness of text structure and how it affects meaning also tend to be good writers (Moore, 1995). Good readers use organizational structures such as topic sentences and transition words to help them understand, connect, and remember concepts while reading (Culham, 2003).

Beginning in upper elementary school, students are faced with the demands of writing in the content areas. Providing knowledge of common writing types and high-utility academic vocabulary helps students understand the form of good writing and structure their own writing. Moreover, constructing written responses to text helps students gain a deeper understanding of content-area topics.

The 6+1 Trait® Writing Model

Based on the work of Paul Diederich (Diederich, 1974), researchers looked at hundreds of thousands of papers to come up with the core elements that comprise good writing. "Six plus one" elements were identified:

- 1. Ideas—development of the message
- 2. Organization—internal structure of the piece
- 3. Voice—the way the writer brings the topic to life
- **4. Word Choice**—words the writer uses to convey meaning
- **5. Sentence Fluency**—the flow of words and phrases
- **6. Conventions**—mechanical correctness of the piece
- **+1. Presentation**—the overall appearance of the work

By focusing on the specific traits found in good writing, the 6+1 Trait* writing model helps students improve their own writing.

- Repeated exposure to important writing types along with explanation of text structure features heightens students' awareness of how they can include these conventions in their writing.
- *ReadAbout* passages, in the software and in print, provide models of text in four key writing forms: expository, narrative, descriptive, and persuasive.
- *ReadAbout* prompts students to create constructed written responses in reaction to what they have read in the software.

- The writing prompts within the *ReadAbout* print materials encourage writing in reaction to topics students have recently explored, deepening their comprehension of the material.
- ReadAbout provides lesson plans for teachers that support explicit teaching of the characteristics of good writing. The 6+1 Trait* model writing pages in the Scholastic Achievement Manager (SAM) consist of structured lessons and rubrics to provide clear guidelines for student writers.
- The Scoring Guides, available as SAM resources, allow teachers to analyze student work using specific criteria and models, and to use this information to inform instruction.



ANCHORED INSTRUCTION

Building mental models is an important key to reading comprehension. Providing struggling readers with visual images and complementary narrative text helps support them as they read (Hasselbring and Goin, 2004).

RESEARCH EVIDENCE

Anchored Instruction

For effective comprehension, students need background knowledge to connect what they already know to the new ideas they encounter while reading (Hasselbring, Goin, Taylor, Bottge, and Daley, 1997). Experts agree that readers need to have prior "domain-specific" knowledge about the subject of a text in order to comprehend it (Hirsch, 2006). Moreover, students with limited vocabulary and background knowledge may struggle to form mental images, leading to poor comprehension (Cognition and Technology Group at Vanderbilt, 1990). Anchored instruction helps students build mental models by providing them with the vocabulary and background knowledge they need prior to reading. Research has shown that preteaching key vocabulary and language concepts is critical to comprehension, especially for Englishlanguage learners (Dutro and Moran, 2002).

Creating Mental Models

Video and audio can provide the images, concepts, and vocabulary needed to help readers visualize new material. Research shows that when text is combined appropriately with images and sound, students' background knowledge is enhanced (Daiute and Morse, 1994). Researcher and technology developer Ted Hasselbring concludes that visual formats, such as video and pictures, are effective in helping struggling readers create vivid mental models. Videos are a unique way to help students build mental models because they are "dynamic, visual, and spatial" (Cognition and Technology Group at Vanderbilt, 1990).

READABOUT SUPPORT

- Before reading the passages in a topic, students watch minute-long Anchor Videos, which build background knowledge that helps students extract meaning from the reading. These videos also include maps, images, and content-area vocabulary that support comprehension as the students read.
- Before reading, the program uses a graphic organizer to introduce key content-area and academic vocabulary and help students visualize connections between words, concepts, and meanings.

- In *ReadAbout*, videos, images, audio, and text combine to help students visualize new material, build background knowledge, and create mental models.
- Brief skill videos model the 10 key comprehension skills for nonfiction text. Learning the language associated with a skill before encountering it in text supports readers of all levels.

Further Reading

Rose, D. (2005). Reading and the brain. Scholastic Professional Paper. New York: Scholastic Inc.

DIFFERENTIATED INSTRUCTION

Because students start out at different levels and face distinct challenges, successful teachers should tailor instruction to meet the specific learning needs of each student.

RESEARCH EVIDENCE

Leveling Text

Many students struggle with reading in upper elementary school because text at this level contains new vocabulary and content beyond their knowledge and experience, making comprehension difficult (Chall, Jacobs, and Baldwin, 1990). The goal of differentiating reading instruction is to help all students understand what they read. To do this, instruction must be guided by each student's particular strengths and areas of need (Drapeau, 2004). Students bring to school a wide range of abilities and needs with regard to learning readiness, interests, modes of learning, experiences, and life circumstances. With guidance and support, learners are able to perform tasks that are slightly beyond their independent capabilities. Differentiated instruction varies the level of difficulty and support according to the needs of individual students while keeping within their "zone of proximal development" (Vygotsky, 1978).

The Benefits of Adaptive Technology

Ongoing assessment and evaluation are critical to delivering appropriate, data-driven differentiated instruction (Pressley et al., 2001; Tomlinson and Kalbfleisch, 1998). Technology can provide great flexibility in creating a customized learning experience that is responsive to individual needs and interests (Meyer and Rose, 1998; Rose, Meyer, and Hitchcock, 2005). Adaptive computer software can immediately and automatically adjust to a student's particular instructional needs, provide corrective feedback based upon assessment of a student's errors, as well as collect data and monitor individual progress over time.

READABOUT SUPPORT

- ReadAbout passages are written between the ranges of 300 and 1100 Lexiles. (The Lexile measure is a scientific approach to gauging text difficulty and reading ability.) ReadAbout's adaptive algorithm ensures that each student is given text that is accessible at his or her level. This adaptive algorithm also ensures that every topic is tailored to meet each student's particular set of strengths and areas of need, with respect to direct skills and vocabulary instruction.
- Each passage in *ReadAbout* contains five highutility or content-area vocabulary words. Students master each word on the path to building their vocabularies and increasing reading achievement.
- *ReadAbout* continually assesses each student's reading performance to provide tailored instruction in comprehension and vocabulary activities.
- When students answer skills questions incorrectly, they are given skill-specific corrective feedback explaining why their answer was wrong. On some questions, students are referred back to a highlighted portion of text that will provide text evidence to guide them to the correct answer.
- The Data-Driven Instructional Planner (DDIP) is a tool found in ARDI. The DDIP helps teachers assess their students' progress in 10 key comprehension skills and follow up with appropriate classroom instruction.
- The Scholastic Achievement Manager (SAM) provides 20 printable reports that monitor student progress in the *ReadAbout* software. Data from the reports enables teachers to practice data-driven instruction in a traditional classroom setting, and increase the efficiency of the English Language Arts block.

LEXILE is a registered trademark of MetaMetrics, Inc.



CONTINUOUS ASSESSMENT

Ongoing assessment and evaluation are critical to delivering effective data-driven instruction. Teachers can use technology to monitor student progress and modify instruction to meet each student's changing needs.

RESEARCH EVIDENCE

Assessment and Comprehension Instruction

Duke and Pearson (2002) recommend that comprehension instruction be accompanied by ongoing assessment. They indicate that teachers should monitor students' use of, and success with, comprehension strategies, and that this data should drive the teacher's instruction. "When a particular strategy continues to be used ineffectively, or not at all, the teacher should respond with additional instruction or a modified instructional approach." Students should be monitoring their own use of comprehension strategies as well, becoming "aware of their own strengths and their weaknesses as developing comprehenders" (Duke and Pearson, 2002). By providing clear goals for reading tasks and feedback on progress, teachers can help students develop increased self-efficacy and strategies for text comprehension (Guthrie and Wigfield, 2000).

The Role of Technology in Assessment

Research shows that students will make greater gains if instruction and assessment are integrally related (Pellegrino, Chudowsky, and Glaser, 2001). Technology can provide a customized learning experience that is continually responsive to individual needs and interests, and that is able to track student performance and provide feedback (Meyer and Rose, 1998; Rose, Meyer, and Hitchcock, 2005). Teachers can then use the data on student performance to inform classroom instruction.

- Assessment of comprehension skills, vocabulary knowledge, and content-area knowledge is embedded in activities and questions during and after targeted reading. Corrective feedback is provided in response to incorrect answer choices.
- ReadAbout's unique adaptive instructional algorithm periodically adjusts content for each student based upon her or his reading ability and skill needs. For students struggling with a particular comprehension skill, further instruction is provided with a follow-up Skill Tutorial.

- The Scholastic Achievement Manager (SAM) provides 20 diagnostic, progress-monitoring, and instructional-planning reports to ensure individual and class progress through the *ReadAbout* software.
- SAM reports, used in conjunction with the differentiated lessons in ARDI, enable teachers to evaluate a student's strengths or weaknesses in order to provide individualized instruction, give encouragement, and reinforce specific needs in small-group instructional time.
- Both the Performance Range Grouping Report and the Skills Grouping Intervention Report help teachers to make instructional decisions for grouping and regrouping students on a regular basis, allowing teachers to maintain focused and flexible groups to monitor reading skills using data.

Motivation

Motivation is strongly related to both a desire to read more and to reading achievement (Guthrie, 2001).

RESEARCH EVIDENCE

Motivation and Nonfiction Reading

Librarians have long known that children are more likely to read when they find an interesting book. The skilled reader is usually one who has discovered that reading is informative and interesting. This self-motivation compels students to read. They demonstrate their interest by initiating their own reading activities and staying with the reading task even when it becomes difficult (Maehr, 1976). Research has shown that curiosity is a powerful motivator for reading, and nonfiction books often appeal directly to a student's curiosity (e.g., Baker and Wigfield, 1999; Dreher, 2003).

Motivation in the Classroom

A combination of research (e.g., Gambrell and Marinak, 1997; Guthrie and Wigfield, 2000; Smith and Wilhelm, 2002; Snow, 2002; Turner, 1997) identifies what teachers can do to support and motivate students as they read. Strategies that will motivate students to read include the following:

- 1. Match students to texts on their reading level;
- 2. Provide a variety of texts that are interesting and appropriate for students' age ranges and personally relevant to individual students;
- 3. Empower students by allowing them to select their own texts;
- 4. Encourage students to monitor their own progress;
- 5. Support students with immediate, continuous feedback and encouragement;
- 6. Use technology to excite students' interest.

READABOUT SUPPORT

- The *ReadAbout* software uses a range of intrinsic and extrinsic interactive instructional activities, such as card collecting, quizzes, and word challenges that reward students with stars and increase in rank to encourage success and to motivate them as they learn.
- *ReadAbout* prompts students to choose the nonfiction topic that most interests them from three highly engaging topics written at their level.

- Students are provided with multiple opportunities to develop and master skills at their reading levels, while receiving continuous feedback on their progress throughout the software and in reports.
- When students complete a topic, they are given a choice of three new topics that are aligned to their reading level and particular skills needs. Students may select the topic that they are most interested in learning about.
- Incorrect answers are treated as teaching moments during and after reading. Students receive supportive, corrective feedback that explains why an answer was incorrect and directs them to reread and find the correct answer in the text.
- *ReadAbout*'s technology provides a colorful, engaging, and friendly environment for learning.
- The *ReadAbout* reading cards include a Featured Career, which encourages students to understand real-world occupations in which they are interested, making reading more personally relevant.

Further Reading

Hunter, P. C. (2005). *Raising students who want to read*. Scholastic Professional Paper. New York: Scholastic Inc. Jenkins, H. (2005). *Motivation and learning*. Scholastic Professional Paper. New York: Scholastic Inc.



INSTRUCTIONAL SEQUENCE

ReadAbout's embedded instructional sequence is designed to assist and motivate every student in a classroom—from students struggling with basic reading comprehension skills to those who have excelled beyond grade level. Each step in the sequence provides instruction, practice, remediation, or challenge in comprehension skills and strategies, vocabulary, and content-area knowledge. The five steps in ReadAbout's embedded instructional sequence are:

1. Anchored Instruction Before Reading

ReadAbout prepares students to learn by anchoring instruction and building mental models. Before students begin reading, ReadAbout pre-teaches vocabulary, frontloads comprehension instruction with skill videos, and builds background knowledge with content-related videos.

2. Scaffolded Reading During Reading

ReadAbout customizes reading instruction by delivering high-interest, leveled, nonfiction content. The program also ensures multiple exposures to high-utility vocabulary, offers extensive contextual supports, and provides explicit instruction in the skills and strategies each student needs to learn.

3. Informative Assessment After Reading

ReadAbout assesses students on vocabulary performance and knowledge of the ten nonfiction comprehension skills. Targeted corrective feedback provides further instruction when difficulty arises, along with the opportunity to try again. Every keystroke is collected by the program and not only informs the adaptive algorithm, but also allows extensive reporting. Teachers and administrators can access collected data in the ReadAbout reports.

4. Personalized Practice After Reading

ReadAbout provides students with the opportunity to practice vocabulary through dynamic instructional activities and a personalized collection of vocabulary cards. It also offers further on-level practice with comprehension skills, as well as topic-specific writing activities.

5. Adaptive Intervention After Reading

ReadAbout software adapts to stay on pace with students by delivering reading passages at a higher or a lower level, according to need; delivering vocabulary review as needed; and engaging students in tutorials on comprehension skills if performance shows that it is necessary. Dynamic scaffolds adjust passage text level based on student performance.

REFERENCES

Armbruster, B. B., & Armstrong, J. O. (1993). Locating information in text: A focus on children in the elementary grades. *Contemporary Educational Psychology*, 18, 139–161.

Baker, L., & Wigfield, A. (1999). Dimensions of children's motivation for reading and their relations to reading activity and reading achievement. *Reading Research Quarterly*, 34, 452–477.

Baumann, J. F., & Kame'enui, E. J. (Eds.) (2004). *Vocabulary instruction: Research to practice*. New York: Guilford Press.

Beck, I. L., & McKeown, M. G. (2001). Text talk: Capturing the benefits of read-aloud experiences for young children. *The Reading Teacher*, 55, 10–20.

Beck, I. L., McKeown, M. G., & Kucan, L. (2002). Bringing words to life: Robust vocabulary instruction. New York: Guilford Press.

Caswell, L. J., & Duke, N. K. (1998). Non-narrative as a catalyst for literary development. *Language Arts*, 75, 108–117.

Chall, J. S., Jacobs, V. A., & Baldwin, L. E. (1990). *The reading crisis: Why poor children fall behind.* Cambridge, MA: Harvard University Press.

Cognition and Technology Group at Vanderbilt. (1990). Anchored instruction and its relationship to situated cognition. *Educational Research*, 19, 2–10.

Coxhead, A. (2000). A new academic word list. TESOL Quarterly, 34, 2: 213-238.

Culham, R. (2003). 6 + 1 traits of writing. New York: Scholastic.

Daiute, C., & Morse, F. (1994). Access to knowledge and expression: Multimedia writing tools for students with diverse needs and strengths. *Journal of Special Education Technology*, 12, 221–256.

Diederich, P. B. (1974). Measuring growth in English. Urbana, IL: National Council Teachers of English.

Drapeau, P. (2004). Differentiated instruction: Making it work. New York: Scholastic.

Dreher, M. J. (2003). Motivating struggling readers by tapping the potential of information books. *Reading & Writing Quarterly*, 19, 25–38.

Duke, N., (2000). 3.6 minutes per day: The scarcity of informational texts in first grade. *Reading Research Quarterly*, 35, 202–224.

Duke, N., & Bennet-Armistead, V. (2003). Reading and writing informational text in the primary grades. New York: Scholastic.

Duke, N., & Pearson, D. (2002). Effective practices for developing reading comprehension. In A. Farstrup & S. Samuels (Eds.), *What research has to say about reading instruction*. (3rd ed.) 205–242. Newark, DE: International Reading Association.

Dutro, S., & Moran, C. (2002). Rethinking English language instruction: An architectural approach. In G. Garcia (Ed.), *English learners: Reading the highest level of English literacy*, 227–258. Newark, DE: International Reading Association.

REFERENCES

Flood, J., Lapp, D., & Fisher, D. (2003). Reading comprehension instruction. In J. Flood, D. Lapp, J. Squire, & J. Jensen (Eds.), *Handbook of Research of Teaching the English Language Arts* (2nd ed.), 931–942. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Gambrell, L. B., & Marinak, B. A. (1997). Incentives and intrinsic motivation to read. In J. T. Guthrie & A. Wigfield (Eds.), *Reading engagement: Motivating readers through integrated instruction*, 205–217. Newark, DE: International Reading Association.

Garcia, G. E. (1991). Factors influencing the English reading test performance of Spanish-speaking Hispanic students. *Reading Research Quarterly*, 26, 371–392.

Guthrie, J. T. (2001). Contexts for engagement and motivation in reading. *Reading Online*, 4(8). Available: http://www.readingonline.org/articles/art_index.asp?HREF=/articles/handbook/guthrie/index.html

Guthrie, J. T., & Wigfield, A. (2000). Engagement and motivation in reading. In R. Barr, M. L. Kamil, P. Morgenthat, & P. D. Pearson (Eds.), *Handbook of reading research* (Vol. 3). White Plains, NY: Longman Publishing Group.

Harris, A. J., & Jacobson, M. D. (1982). Basic reading vocabularies. New York: Macmillan.

Hasselbring, T., & Goin, L. (2004). Literacy instruction for older struggling readers: What is the role of technology? *Reading & Writing Quarterly, 20*, 123–144.

Hasselbring, T., Goin, L., Taylor, R., Bottge, B., & Daley, P. (1997). The computer doesn't embarrass me. *Educational Leadership*, 55, 30–33.

Hirsch Jr., E. D. (2006). Building knowledge: The case for bringing content into the language arts blocks and for a knowledge-rich curriculum core for all children. *American Educator*, 30, 8–29, 50–51.

Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology*, 80, 437–447.

Juel, C., & Deffes, R. (2004). Making words stick. Educational Leadership, 63, 30–34.

Kamil, M. L., & Hiebert, E. H. (2005). The teaching and learning of vocabulary: Perspectives and persistent issues. In E. Hiebert & M. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Lapp, D., Flood, J., & Ranck-Buhr, W. (1995). Using multiple text formats to explore scientific phenomena in middle school classrooms. *Reading & Writing Quarterly: Overcoming Learning Difficulties, 11,* 173–186.

Maehr, M. L. (1976). Continuing motivation: An analysis of a seldom considered educational outcome. *Review of Education Research*, 46, 443–462.

Meyer, A., & Rose, D. (1998). Learning to read in the computer age. Cambridge, MA: Brookline Books.

McKeown, M. G., Beck, I. L., Omanson, R. C., & Perfetti, C. A. (1983). The effects of long-term vocabulary instruction on reading comprehension: A replication. *Journal of Reading Behavior*, 15, 3–18.

McKeown, M. G., Beck, I. L., Omanson, R. C., & Pople, M. T. (1985). Some effects of the nature and frequency of vocabulary instruction on the knowledge and use of words. *Reading Research Quarterly*, 20, 522-535.

REFERENCES

Moore, S. (1995). Focus on research: Questions for research into reading-writing relationships and text structure knowledge. *Language Arts*, 72, 598–606.

Nagy, W. E. (1997). On the role of context in first- and second-language vocabulary learning. In N. Schmidt & M. McCarthy (Eds.), *Vocabulary: Description, acquisition, and pedagogy*, 64–83. Cambridge, UK: Cambridge University Press.

National Reading Panel. (2000). Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. Washington, DC: National Institute of Child Health and Human Development.

Pellegrino, J. W., Chudowsky, N., & Glaser, R. (Eds.) (2001). Knowing what students know: The science and design of educational assessment. Washington, DC: National Academy Press.

Pressley, M. (2001). Reading instruction that works: The case for balanced teaching. New York: Guilford Press.

Pressley, M., Rankin, J., & Yokoi, L. (1996). A survey of instructional practices of primary teachers nominated as effective in promoting literacy. *The Elementary School Journal*, 96, 363–384.

Pressley, M., Wharton-McDonald, R., Allington, R., Block, C. C., Morrow, L., Tracey, D., Baker, K., Brooks, G., Cronin, J., Nelson, E., & Woods, D. (2001). A study of effective first-grade literacy instruction. *Scientific Studies of Reading*, 5, 35–58.

Rose, D. H., Meyer, A., & Hitchcock, C. (2005). *The universally designed classroom: Digital technologies and accessible curriculum.* Cambridge, MA: Harvard Education Press.

Saul, E. W., & Dieckman, D. (2005). Choosing and using information trade books. *Reading Research Quarterly*, 40, 502–513.

Smith, M. W., & Wilhelm, J. D. (2002). Reading don't fix no Chevys: Literacy in the lives of young men. Portsmouth, NH: Heinemann.

Snow, Catherine. (2002). Reading for understanding: Toward an R&D program in reading comprehension. Santa Monica, CA: Rand Corporation.

Stahl, S. A., (1998). Four questions about vocabulary knowledge and reading and some answers. In C. Hynd (Ed.), *Learning from text across conceptual domains*, 15–44. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Stahl, S., & Fairbanks, M. M. (1986). The effects of vocabulary instruction: A model-based meta-analysis. *Review of Educational Research*, 56, 72–110.

Tomlinson, C., & Kalbfleisch, M. (1998). Teach me, teach my brain: A call for differentiated classrooms. *Educational Leadership*, 3, 52–55.

Turner, J. C. (1997). Starting right: Strategies for engaging young literacy learners. In J. T. Guthrie & A. Wigfield (Eds.), *Reading engagement: Motivating readers through integrated instruction*, 205–217. Newark, DE: International Reading Association.

Verhoeven, L. T. (1990). Acquisition of reading in a second language. *Reading Research Quarterly*, 25, 90–114.

Vygotsky, L. (1978). Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press.

READABOUT RESEARCHERS

ReadAbout is Based on Best Practices in Research

Scholastic invited leading researchers and educators to review and discuss the best research-based practices for teaching reading comprehension to children in Grades 3–6. These discussions resulted in five research papers that are included with the *ReadAbout* program materials, and are also available online at www.scholastic.com/readabout.

PROGRAM ADVISORS



Dr. Maria S. Carlo English-Language Learning



Ruth Culham Writing



Phyllis C. Hunter Comprehension and Motivation



Dr. Henry JenkinsMotivation, Gaming,
and Learning



Dr. Ted S. Hasselbring Technology and Learning



Dr. Bridget DaltonReading and
Cognitive Learning



Dr. David RoseReading and
Cognitive Learning



Dr. Kate KinsellaComprehension and Vocabulary Learning



Dr. Kevin FeldmanComprehension and Vocabulary Strategies



Dr. Jeffery WilhelmNonfiction Reading
Strategies and Motivation

FURTHER READING



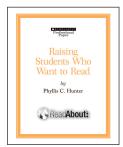
#974224
Narrowing the
Language Gap
By Kevin Feldman
& Kate Kinsella



#974220 Reading and the Brain By David Rose



#974222 Inquiring Minds Learn to Read By Jeffrey D. Wilhelm



#974221 Raising Students Who Want to Read By Phyllis C. Hunter



#974223 Motivation and Learning By Henry Jenkins

To order copies call 877-234-READ, or visit www. scholastic.com/readabout

Research Foundation Paper



Scholastic Inc. 557 Broadway New York, NY 10012 1-800-SCHOLASTIC www.scholastic.com/readabout