Research Supporting Keys to Literacy Programs

The Key Comprehension Routine for Grades 4-12

Effective Comprehension Instruction: What the Research Says

Researchers agree that the goal of comprehension is more likely attained when students are actively involved in seeking, organizing, and reformulating information in their own words. Written responses demand the mental transformation of ideas and foster ownership of learning (Stotsky, 2001; Duke, Pressley & Hilden, 2004). *The Key Comprehension Routine* teaches students to actively read about and listen to content information and then apply a set of research-based strategies to organize and write about that information.

Several reviews and syntheses of research offer key information about effective comprehension strategy instruction. These reviews by Alvermann and Moore (1991), The National Reading Panel (2000), The RAND Reading Study Group (Snow, 2002), Carlisle and Rice (2002), Curtis (2002), Meltzer, Smith and Clark (2003), and others examine hundreds of scientific and quasi-scientific studies and conclude that comprehension can be enhanced by teaching a relatively small set of comprehension strategies.

Effective Comprehension Strategies

The Key Comprehension Routine provides a consistent set of foundational strategy activities, including how to find main ideas, using and generating top-down topic webs, taking notes, generating questions, and summarizing. The National Reading Panel (2000) identified several comprehension strategies as being most effective for improving comprehension. They are described below, followed by a brief description of how each strategy is embedded in The Key Comprehension Routine.

- Comprehension monitoring. Readers approach text with a sense of purpose and adjust how they read.
    - *The Key Comprehension Routine* teaches students how to identify main ideas and relevant details while reading and then enter them into two-column notes.
- Use of graphic organizers (including story maps). Readers create or complete graphic or spatial representations of the topics and main ideas in text.
    - A major *Key Comprehension* activity is the use of a top-down topic graphic organizer that is used before, during and after reading.
- Question answering and generation. Readers ask and answer questions before, during, and after reading. They learn to consider what type of question is being asked according to a framework and to anticipate test questions they may be asked.
    - *The Key Comprehension Routine* teaches students how to generate questions at all levels of Bloom's Taxonomy. There is also a focus on learning key question terms.
- Summarization. Readers select and paraphrase the main ideas of expository text and integrate those ideas into a brief paragraph or several paragraphs that capture the most important propositions or ideas in the reading.
    - A major activity of *The Key Comprehension Routine* is summarizing. Students are taught a process for generating a summary and use a summarizing template to scaffold their thoughts before writing.
- Cooperative learning. Students learn strategies together through peer interaction, dialogue with each other, and with the teacher in whole-group activities.
    - After teachers have introduced and modeled strategy activities, *The Key Comprehension Routine* emphasizes providing opportunities for students to practice application of the activities in small, cooperative groups.

Using More Than One Strategy at a Time

Research has also shown that although each of the strategies is beneficial when used alone, instruction is even more effective when several strategies are combined together (Gaskins, 1998; Pressley, 2000; Duke, 2004). The National Reading Panel (2000) found that when used in combination, the use of strategies can improve the results of standardized comprehension tests. *The Key Comprehension Routine* trains teachers to use several strategies at a time (e.g., using a topic web to generate a summary, generating questions from two-column notes).

Teaching Strategies in the Content Classroom

Research further indicates that teachers who provide comprehension strategy instruction that is deeply connected within the context of subject matter learning, such as history and science, foster comprehension development (Snow, 2002; Biancarosa & Snow, 2004)). If students learn that strategies are tools for understanding the conceptual context of text, then the strategies become more purposeful and integral to reading activities. Unless strategies are closely linked with knowledge and understanding in a content area, students are unlikely to learn the strategies fully, may not perceive the strategies as valuable tools, and are less likely to use them in new learning situations with new text. The research does not show strong results for students who learn skills in isolation and then are expected to apply or transfer those skills appropriately at their own discretion (Meltzer et al., 2003). In their summary of the research on secondary school teaching specific to reading, Alvermann and Moore (1991) concluded that the use of strategies such as taking notes, mapping, and paraphrasing should be built into the curriculum of all content areas, and that it is a program outcome for which all educators are responsible.

The Key Comprehension Routine embeds strategy instruction in content classroom lessons using content-specific texts and other reading materials. Students see the immediate application and benefit of using the strategies to help them read, organize, and study content information that is necessary to succeed in their major content classes.

Note taking is one key component of the routine. Professional development for two-column notes includes how to teach students to take notes from both reading and listening. Peverly and colleagues (2007) found that the act of taking written notes about text material should enhance comprehension. Note taking involves sifting through a text to determine what is most relevant and paraphrasing this information into written phrases in notes. "Intentionally or unintentionally, note takers organize the abstracted material in some way, connecting one idea to another, while blending new information with their own knowledge, resulting in new understandings of texts…. Taking notes about text proved to be better than just reading, reading and rereading, reading and studying, reading and underlying important information, and receiving explicit instruction in reading practices." (Graham & Hebert, 2010).

The Key Comprehension Routine and Writing Skills

The *Writing Next* report (Graham & Perin, 2007) reviewed the results of a meta-analysis of teaching techniques that were found to be most effective for improving the writing skills of 4th- to 12th-grade students. The authors identified 11 elements. Five of these elements are incorporated in *The Key Comprehension Routine* (page 4):

- **Writing Strategies,** which involves teaching students strategies for planning, revising, and editing their compositions.
- **Summarization,** which involves explicitly an systematically teaching students how to summarize texts
- **Specific Product Goals,** which assigns students specific, reachable goals for the writing they are to complete."
- **Prewriting,** which engages students in activities designed to help them generate or organize ideas for their composition
- **Writing for Content Learning,** which uses writing as a tool for learning content material.

A more recent meta-analysis of the research on the connection between reading and writing, *Writing to Read* (Graham & Hebert, 2010) reached several conclusions that support The Key Comprehension Routine. The report identified the following instructional practices to be effective in improving students' reading comprehension and comprehension of content information (p. 5):

- Have students write about the texts they read
  - Respond to text in writing
  - Write summaries of a text
  - Write notes about a text
  - Answer questions about a text in writing, or create and answer written questions about a text
- Teach students the writing skills and processes that go into creating text
  - Teach the process of writing, text structures for writing, paragraph or sentence construction skills
- Increase how much students write
  - Student's reading comprehension is improved by having them increase how often they produce their own texts

The Key Comprehension Routine combines reading, writing and study strategies. An essential aspect about the program is that students write about what they read, and they learn about main ideas and text structure as this relates to both reading comprehension and writing. Shanahan (2006) notes that there is an empirical research base that shows that reading and writing depend on a common base of cognitive processes and knowledge. It is possible to teach reading so that it improves writing and to teach writing so that it improves reading. The main idea, text structure, topic webs, note-taking, and summarizing activities in *The Key Comprehension Routine* combine reading and writing instruction as applied to learning content.

Explicit and Direct Instruction

In a recent IES (Institute of Education Sciences) report titled *Improving Adolescent Literacy: Effective Classroom and Intervention Practices* (Kamil et al., 2008), five evidence-based recommendations were made to improve literacy levels among students in upper elementary, middle, and high schools. The second recommendation was for teachers to provide direct and explicit instruction in comprehension strategies to improve students' reading comprehension. It notes "Direct and explicit teaching involves a teacher modeling and providing explanations of the specific strategies students are learning, giving guided practice and feedback, and promoting independent practice to apply the strategies." (page 16) *The Key Comprehension Routine* uses an *I do it, We do it, You do it* model of instruction based on the Gradual Release of Responsibility model (Pearson & Gallagher, 1983). This approach ensures explicit and direct instruction, supported by modeling, scaffolding, and significant guided practice.

Professional Development for Strategy Instruction

A major finding of the National Reading Panel (2000) was that professional development is essential for teachers to develop knowledge of comprehension strategies and to learn how to teach and model strategy use. The RAND Reading Study Group (Snow, 2002) noted that studies have underscored the importance of teacher preparation as a way to deliver effective instruction in reading comprehension strategies, especially when the students are low performing. In their report *Literacy Instruction in the Content Areas*, Heller and Greenleaf (2007) note that one of the challenges of improving student content literacy skills is the scarcity of ongoing, high-quality professional development for teachers. They note that research has shown, however, that when teachers do receive intensive and ongoing professional support, many content area teachers find a way to emphasize reading and writing in their classes (Greenlef & Schoenbach, 2004; Lieberman & Wood, 2002). Professional development for *The Key Comprehension Routine* is designed to provide ongoing guided practice and support through the use of building-based *Key Comprehension* coaches and a series of follow-up sessions facilitated by Keys to Literacy trainers.

Summary

The Key Comprehension Routine is a model for embedding comprehension and writing instruction in content classroom instruction. The instructional practices are organized into a common set of foundational activities that can be used with any subject matter. Every activity in the routine is research-based. The training book contains references to the research and connections are made to the research throughout professional development for the program. Specifically, Chapter 2 of the training book includes a review of the research on effective comprehension instruction.

The Key Comprehension Routine for Grades K-3

The Key Comprehension Routine: Primary Grades is an adapted version of *The Key Comprehension Routine* originally developed for grades 4-12. This version for grades K-3 is designed to help teachers provide basic comprehension instruction and to introduce strategies in these early grades.

Research suggests that strategy instruction using a gradual-release-of-responsibility model should begin as early as kindergarten, and that comprehension instruction does improve the comprehension of primary grade students (Shanahan et. al., 2010; Pearson & Duke, 2002). Pilonieta and Medina (2009) and Reutzel, Smith and Fawson (2005) conducted studies with first and second grade students and found that these young children were able to learn strategies and apply them to new content and text, and that their reading performance was stronger when they were taught a set of strategies.

Primary grade teachers need professional development for how to teach comprehension. Explicit comprehension instruction does not occur in many primary classrooms (Duke & Pearson, 2002), and curriculum analyses of the five most widely used core reading programs revealed that these programs recommend teaching many more skills and strategies than researchers recommend, dilute the emphasis on critical skills, and rarely follow the gradual-release-of-responsibility model employed in studies of successful comprehension instruction (Dewitz et. al., 2009).

In their review of the research on K-3 comprehension instruction, Block and Lacinda (2009) suggest that young students must have instruction in the following areas in order to develop comprehension skills:

- Comprehension strategies and processes, as well as how to independently select the ones needed to understand increasingly complex tests
- Use of textual features (e.g., subheadings, textbook organizational features, indexes, table of contents, and so forth)
- Thinking about their own thinking when they read

The IES Practice Guide Improving Reading Comprehension in Kindergarten Through 3rd Grade (Shanahan et. al, 2010) makes three similar recommendations that are related to The Key Comprehension Routine:

- Teach students how to use several reading comprehension strategies

- Teach students to identify and use the text's organizational structure to comprehend, learn, and remember content
- Guide students through focused, high-quality discussion on the meaning of text

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The Key Vocabulary Routine

Effective Vocabulary Instruction: What the Research Says

In its analysis of the research on vocabulary instruction, the National Reading Panel (2000) found that there is no single best method for vocabulary instruction and that vocabulary should be taught both directly and indirectly. *The Key Vocabulary Routine* emphasizes both direct and indirect methods for building students' vocabulary.

Direct instruction means focusing on specific words, such as previewing unfamiliar words prior to reading a selection, or selecting a set of subject-specific high frequency words to teach in-depth. It is impossible to directly teach all the words that students need to learn. Beck, McKeown, and Kucan (2002) estimate that students can be explicitly taught approximately 400 words per year in school. It is therefore necessary for teachers to identify specific words to teach in-depth. Step 1 in *The Key Vocabulary Routine* presents research-based instruction methods for effective previewing before reading. Step 3 in the routine incorporates McKeown and Beck's (2004) Three Tier model for selecting academic and content-specific vocabulary to teach in-depth. Step 4 of the routine presents four research-based activities for teaching words in relation to other words and background knowledge (i.e., semantic feature analysis, semantic mapping, categorizing and scaling).

Other examples of direct instruction include teaching word analysis skills, such as identifying roots and base words, suffixes, prefixes and teaching how to use context to determine word meaning. Step 4 in *The Key Vocabulary Routine* focuses on these skills.

Vocabulary instruction should also include indirect approaches such as exposing students to many new words and having them read more. Indirect instruction also includes helping students develop an appreciation for words and experience enjoyment and satisfaction in their use (Baumann, et al., 2003). Step 5 in *The Key Vocabulary Routine* focuses on this through the promotion of word consciousness in the classroom.

The following chart indicates the research that was incorporated into the development of the five steps in *The Key Vocabulary Routine*; a review of this research is included in all Key Vocabulary training.

Step 1: Preview for difficult vocabulary	Pre-teaching vocabulary improves comprehension	Laflamme, 1997; Billmeyer & Barton, 1998
	Previewing words to make connections to background knowledge improves comprehension	Hirsch, 2003
	Goal of previewing should be to provide basic information	Graves, 2006
	How to preview	Beck & McKeown, 2007; Carlisle & Katz, 2005
Step 2: Use activities that connect vocabulary to background knowledge and related words	Why teaching related words is helpful	Landauer & Dumais, 1997; Hirsch 2006; Graves, 2006
	Semantic Mapping	Heimlich & Pittelman, 1986
	Semantic Feature Analysis	Baldwin et al., 1981; Johnson & Pearson, 1984
	Categorizing	Moats, 2005
	Scaling	Moats, 2005; Allen, 1999
Step 3: Select specific words to teach in-depth	Why teach some words in-depth?	Kamil, et al., 2008; Graves, 2006; McKeown & Beck; 2004
	How to select words to teach in-depth	Juel & Deffes, 2004; Lehr et al., 2004; McKeown & Beck, 2004; Haggard, 1982
	How to teach words in-depth	Beck et al., 1987, 2002; Kamil et al., 2008; Bromley, 2007; Moats, 2005
	Research-based templates for teaching words	Frayer et al., 1969; Schwartz, 1988
	Teaching dictionary skills and user-friendly definitions	Lehr et al., 2004; Moats, 2005
Step 4: Identify opportunities to teach word learning strategies	Teaching how to use the context	Kuhn & Stahl, 1998; Bromley, 2007; Graves, 2006; Pressley et al., 2007; Beck, McKeown & Kucan, 2002
	Teaching how to use word parts	Carlisle, 2007; Edwards et al., 2004; Graves, 2004 & 2006; White, Sowell & Yanagihara, 1989; Stahl, 1999;
Step 5: Promote word consciousness	Creating a word-rich classroom	Anderson & Nagy, 1992; Lehr, 2004; Beck, McKeown & Kucan, 2002
	Word Play	Blachowicz & Fisher, 2004; Johnson et al., 2004
	Classroom reading materials	Nagy et al., 1987

Vocabulary Instruction Embedded Throughout the Day and in all Content Areas

The National Reading Panel (2000) also concluded that there is no single best time to teach vocabulary. Students have many words to learn across the curriculum; vocabulary instruction must happen during every content class, not just in English Language Arts. Content area vocabulary is often different and unique from vocabulary that students encounter in literature (Armbruster & Nagy, 1992; Billmeyer & Barton, 1998). Many content-area textbooks include specialized vocabulary and discipline-related concepts that students may not encounter elsewhere. Explicit instruction in specialized, content vocabulary such as in science or social studies has been identified as an important way to contribute to successful reading comprehension among adolescent students, and it enhances their ability to acquire textbook vocabulary (Kamil et al., 2008). In addition, Pressley, Disney, and Anderson (2007) found that students comprehend more when they are taught vocabulary taken from text they are reading. Beck, McKeown, and Kucan (2002) suggest that vocabulary instruction in middle and high schools should be more "rooted to text and dealt with in a way that both teaches the words and brings enriched understanding to the text" (p. 85).

The Key Vocabulary Routine is intended to be used by all content teachers throughout the day. The professional development for this program is delivered to general education for Tier I instruction, and to interventionists as Tier II support instruction. The routine recognizes that content teachers are often in the best position to determine which content-specific words are most worth teaching in their subject area.

The Case for a Consistent Routine

There is an extensive research base that suggests effective vocabulary instruction must be multi-componential. For example, Graves (2000) has advocated a four-part program that includes wide reading, teaching individual words, teaching word learning strategies, and fostering word consciousness. Pressley, Disney, & Anderson (2007) identify the following components as essential to an effective elementary or secondary classroom (p. 223 – 224):

* Immersing students in rich verbal interactions, especially meaningful and interesting conversations around worthwhile content experiences;
* Promoting extensive reading of worthwhile texts that are filled with mature vocabulary;
* Attending responsively to students' vocabulary needs (e.g., monitoring when they are struggling to identify a word);
* Finding ways to provide definitions to students of potentially unfamiliar words;
* Rich teaching of vocabulary words, involving extensive use of and experience with words over long periods of time;
* Teaching that the meaning of a word often can be inferred from the context clues; and
* Teaching the meaning of common word parts and providing practice in applying this knowledge to understanding unfamiliar words.

The Key Vocabulary Routine uses a set of instruction steps in a routine, incorporating the components noted above, that teachers can use on a consistent basis. When *The Key Vocabulary Routine* is used by a team of teachers who work with the same students across a grade level or on a school-wide basis, students are exposed to vocabulary instruction that is consistent and persistent from grade to grade and subject to subject. It is a systematic program that connects what we know from the research about best practices to daily, classroom instruction.

The Importance of Background Knowledge and Teaching Related Words

People who know a great deal about a topic also know its vocabulary. Word meanings are not just unrelated bits of information, but are part of larger knowledge structures (Stahl, 1999). Schema theory was developed by the educational psychologist R. C. Anderson (1977, 1984). A schema is a mental plan that organizes knowledge to represent one's understanding of a particular topic. People use their schemata to organize current knowledge and provide a framework for future understanding. Schema theory has significant implications as it relates to comprehension and learning new information and words. When students can associate a new word or piece of information with an existing schema, they will learn it faster and remember it longer. Reading comprehension and vocabulary growth are best served by discussing the ideas and new words in them to expand the students' schemata. This kind of immersion in a topic not only improves reading and develops vocabulary, but it also develops writing skills (Hirsch, 2003).

The Key Vocabulary Routine places a strong emphasis on teaching new vocabulary in relation to other new words and words that students already know. The professional development for Step 2 teaches teachers how to use four research-based activities for connecting words to background knowledge and related words (i.e., semantic mapping, categorizing, semantic feature analysis, scaling).

Vocabulary Instruction for ELL Students

For students who are English language learners (ELL), vocabulary instruction is essential. Because these students acquire English vocabulary later, they often enter school with fewer words than their English-speaking peers. Research has found that ELL students are capable of eventually matching or even transcending native speaker levels of vocabulary knowledge, especially if they are exposed to vocabulary through a great deal of reading. There is evidence that many of the same instructional practices that promote vocabulary learning in students with English as their primary language also promote vocabulary for ELL students (Snow & Kim, 2007). This includes all of the steps in *The Key Vocabulary Routine*.

Explicit and Direct Instruction

In a recent IES (Institute of Education Sciences) report titled *Improving Adolescent Literacy: Effective Classroom and Intervention Practices* (Kamil et al., 2008), five evidence-based recommendations were made to improve literacy levels among students in upper elementary, middle, and high schools. The first recommendation was for teachers to provide explicit vocabulary instruction both as part of reading and language arts classes and as part of content-area classes such as science and social studies. Research indicates that direct teaching of specific words and word-learning strategies can both add words to students' vocabularies and improve reading comprehension of texts containing those words (Lehr et al., 2004). The IES report notes "Direct and explicit teaching involves a teacher modeling and providing explanations of the specific strategies students are learning, giving guided practice and feedback, and promoting independent practice to apply the strategies." (page 16) *The Key Vocabulary Routine* uses an *I do it, We do it, You do it* model of instruction based on the Gradual Release of Responsibility model (Pearson & Gallagher, 1983). This approach ensures explicit and direct instruction, supported by modeling, scaffolding, and significant guided practice.

Summary

The Key Vocabulary Routine is a model for embedding direct and indirect instruction in content classroom instruction. The instructional practices are organized into a common set of foundational activities that can be used with any subject matter. Every activity in the routine is research-based. The training book contains references to the research and connections are made to the research throughout professional development for the program. Specifically, Chapter 2 of the training book is a review of the research on effective vocabulary instruction.

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The ANSWER Key Routine for Open Response

The report *Writing to Read* (Graham & Hebert, 2010) presents the results from a large-scale statistical review of the research on how writing enhances students' reading. The findings from this research meta-analysis identified a cluster of closely related instructional practices shown to be effective in improving students' reading. The three core recommendations are (p. 5):

1. **Have students write about the texts they read.** Students' comprehension of science, social studies, and language arts texts is improved when they write about what they read, specifically when they respond to text in writing, write summaries of text, write notes about a text, and answer questions about a text.

2. **Teach students the writing skills and processes that go into creating text**. Students' reading skills and comprehension are improved by learning the skills and processes that go into creating text.
3. **Increase how much students write.** Students' reading comprehension is improved by having them increase how often they produce their own ideas.

The *ANSWER Key Routine for Open Response* provides professional development to all content teachers for all three of these recommendations. The program includes a routine for analyzing questions about text, then reading that text to identify specific and relevant text evidence to answer the question. The routine also includes steps for using two-column notes to organize that information and then how to turn those notes into written sentences and paragraphs (i.e., the process for creating text). The program can be used as a routine to help students with open response questions on state tests, but teachers are also trained to use the routine as a comprehension and learning strategy for all content reading. Teachers are encouraged to have students write open responses on a regular basis.

A previous research report, *Writing Next* (Graham & Perin, 2007), presented the results from a meta-analysis of research regarding effective instruction for improving writing skills of students in grades 3 and up. The report identified 11 elements of writing instruction found to be effective for helping students write well and use writing as a tool for learning (p. 4-5). Of these elements, the following are directly related to the instructional practices incorporated into *The ANSWER Key Routine for Open Response:*

- **Writing strategies**, which involves teaching students strategies for planning, revising, and editing their compositions
- **Summarization**, which involves explicitly and systematically teaching students how to summarize texts
- **Specific product goals**, which assigns students specific, reachable goals for the writing they are to complete
- **Prewriting,** which engages students in activities designed to help them generate or organize ideas for their composition
- **Writing for content**, which uses writing as a tool for learning content material

The Common Core State Standards for literacy (Common Core, 2010) place significant emphasis on careful analytic reading of different types of text that becomes increasingly complex. In particular, the 6-12 Reading Standards for literacy in subject areas place strong emphasis on the ability to use text evidence to support analysis, and the K-12 Writing Standards emphasize the ability to write arguments and informative text based on relevant and sufficient text evidence. The goal of open response questions, and therefore of *The ANSWER Key Routine for Open Response*, is to critically read assorted text from different content areas and identify relevant text evidence to support a question in writing.

This focus in the Common Core Standards is based on a significant amount of research regarding the skills students need in order to be college and career ready. For example (p. 24-25):

- A 2009 ACT national curriculum survey of postsecondary instructors found that "write to argue or persuade readers" was virtually tied with "write to convey information" as the most important type of writing needed by incoming college students.
- The 2007 writing framework for the National Assessment of Educational Progress (NAEP) assigns persuasive writing the single largest targeted allotment of assessment time at grade 12.

Coker and Lewis (2008) reviewed recent research on the skills and strategies students need in order to write with competence and describe an analysis of interventions that help students attain writing mastery. They note that any comprehensive effort to strengthen writing instruction must include attention to the training of teachers. They point out that in many pre- and in-service teacher education programs, literacy courses devote substantially more attention to reading instruction than to writing instruction. "However, in the last twenty years, much has been learned about the writing process, predictors of writing success, and effective approaches to writing instruction" (p. 246). They go on to say, "Since writing can be a tool for learning, and many content area teachers have writing assignments in their courses, content-area teachers should also receive training in writing development and instruction." *The Answer Key Routine for Open Response* was designed to provide all content teachers just this type of professional development to improve the way they teach writing about learning in their classrooms.

The Answer Key Routine for Open Response is a routine for teaching students how to write to learn. An important research finding is that students should be assigned writing activities as a way of promoting content learning and that it seems more beneficial to adolescents to teach writing within content-area instruction (Perin, 2007; Shanahan, 2004)). Perin (2007) points out that the emphasis in writing to learn is on writing practice rather than writing instruction, although it is possible to incorporate both (p. 260). *The Answer Key Routine for Open Response* combines both the teaching of writing skills and the application of writing to improve comprehension and learning from reading.

One specific component of the routine is the use of two-column notes as an organizing step before writing an open response. The act of taking written notes about text material should enhance comprehension (Peverly et al., 2007). Note taking involves sifting through a text to determine what is most relevant and paraphrasing this information into written phrases in notes.

"Intentionally or unintentionally, note takers organize the abstracted material in some way, connecting one idea to another, while blending new information with their own knowledge, resulting in new understandings of texts…. Taking notes about text proved to be better than just reading, reading and rereading, reading and studying, reading and underlying important information, and receiving explicit instruction in reading practices." (Graham & Hebert, 2010). When students use *The Answer Key Routine for Open Response* routine, they combine reading and rereading, reading and underlining information, taking notes about this text, and eventually writing out their understanding of the text.

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The Key Writing Routine

There is a significant amount of research that has been conducted and reviewed on effective writing instruction (Hillocks, 1986; MacArthur, Graham, & Fitzgerald, 2006; Graham & Perin, 2007; Graham & Hebert, 2010). *The Key Writing Routine* draws on this research base and presents a practical model for teaching writing skills and strategies for learning. Teachers learn how to embed effective writing instruction in their existing content curriculum through Keys to Literacy professional development for the model.

In their seminal report *Writing Next*, Graham and Perin (2007) identified eleven elements of writing instruction that were found to be effective for helping students in grades four through twelve learn to write well and to use writing as a tool for learning. With the exception of the fifth element (teach word processing), *The Key Writing Routine* incorporates all of the elements as listed below:

1. Writing Strategies, which involves teaching students strategies for planning, revising, and editing their compositions

2. Summarization, which involves explicitly and systematically teaching students how to summarize texts

3. Collaborative Writing, which uses instructional arrangements in which adolescents work together to plan, draft, revise, and edit their compositions

4. Specific Product Goals, which assigns students specific, reachable goals for the writing they are to complete

6. Sentence Combining, which involves teaching students to construct more complex, sophisticated sentences

7. Prewriting, which engages students in activities designed to help them generate or organize ideas for their composition

8. Inquiry Activities, which engages students in analyzing immediate, concrete data to help them develop ideas and content for a particular writing task

9. Process Writing Approach, which interweaves a number of writing instructional activities in a workshop environment that stresses extended writing opportunities, writing for authentic audiences, personalized instruction, and cycles of writing

10. Study of Models, which provides students with opportunities to read, analyze, and emulate models of good writing

11. Writing for Content Learning, which uses writing as a tool for learning content material

The Key Writing Routine includes teaching students a process to follow for every type of writing: Think, Plan, Write, Revise. This process incorporates what is described in the research literature as "process writing". Beginning with the seminal research of Hayes and Flower in 1980, the importance of teaching process writing has been confirmed and refined by many researchers since then (McCutchen, 2006; Graham, 2006; Graham & Perin, 2007; Pritchard & Honeycutt, 2007).

The Key Writing Routine also includes an instructional routine for teachers to follow whenever they give writing assignments. This routine includes explicit instruction and modeling, gradual release of responsibility, scaffolding, and masterly through repetition and review. There is a significant body of research that has identified these teaching elements as essential (Graham & Harris, 2007; Pritchard & Honeycutt, 2007; Schumaker & Deshler, 2009). Part of the teacher routine includes providing feedback to students about their first drafts and guided practice for the revision process. Gersten, Baker, and Edwards (1999) made this conclusion regarding feedback:

> Providing feedback guided by the information explicitly taught is a component common to successful writing interventions. This includes frequent feedback to students on the overall quality of writing, missing elements, and strengths. When feedback is combined with instruction in the writing process, the dialogue between student and teacher is strengthened. Giving and receiving feedback also helps students to develop "reader sensitivity" and their own writing style. (p.2)

As the name of the program suggests, *The Key Writing Routine* focuses on teaching students how to write about the content they are reading and learning in all subject areas. Teaching writing has been found to improve reading comprehension, and evidence based writing, also described as inquiry-based writing (analyzing data before writing), is an effective instructional practice (Graham & Perin, 2007; Pritchard & Honeycutt, 2007). Evidence based reading, writing, and speaking is highlighted in a number of the Common Core literacy standards (Common Core, 2010). In *Writing to Read*, Graham and Hebert (2010) reported the findings from a meta-analysis of writing instruction research to determine if writing instruction enhances reading comprehension or other reading skills such as decoding or fluency. They identified three instructional recommendations that have been embedded in *The Key Writing Routine*:

- Have Students Write About the Texts They Read. Students' comprehension of science, social studies, and language arts texts is improved when they write about what they read, specifically when they respond to text in writing, write summaries of a text, write notes about a text, and answer questions about a text in writing.
- Teach Students the Writing Skills and Processes That Go Into Creating Text. Students' reading skills and comprehension are improved by learning the skills and processes that go into creating text, specifically when teachers teach the process of writing and text structures for writing, paragraph and sentence construction skills.
- Increase How Much Students Write. Students' reading comprehension is improved by having them increase how often they produce their own texts.

Finally, *The Key Writing Routine* also emphasizes the importance of teaching students language structures at the sentence, paragraph, and longer text levels. Teaching students to focus on the function and practical application of grammar within the context of writing produced strong and positive effects on students' writing. Sentence combining and similar activities for teaching patterns for constructing sentences or larger units of text has been found to improve comprehension and writing skills (Graham & Perin, 2007). Gersten and Baker (1999) make this point about the importance of teaching language and text structures:

> "Explicitly teaching text structures provides a guide for the writing task, whether it is a persuasive essay, a personal narrative, or an essay comparing and contrasting two phenomena. Different types of writing are based on different structures. For example, a persuasive essay contains a thesis and supporting arguments, while narrative writing may

contain character development and a story climax. Instruction in text structures typically includes numerous explicit models and prompts." (p.2)

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Keys to Literacy Planning

Why is district and school wide literacy planning important?

In December of 2009, the Massachusetts DESE published "Guidelines for Developing an Effective District Literacy Action Plan" (Meltzer & Jackson, 2010). The guidelines note the following:

> "We know that literacy is central to academic success in all content areas. Since a focus on improving literacy has been used successfully in many districts across the country as a lever for significant gains in student achievement, a strategic District Literacy Action Plan is one powerful way for a district to reach stated improvement goals. (p. 2)"

In the report released by the Carnegie Corporation of New York and the Alliance for Excellent Education, Biancarosa and Snow (2004) suggested 15 key elements that are indispensible to successful middle and high school literacy programs – one of these elements is the development of a comprehensive and coordinated literacy plan. Irvin, Meltzer & Dukes (2007) note that a school wide literacy action plan is an essential blueprint for improving student achievement.

A recent report, *Time to Act*, from the Carnegie Corporation (2010) addresses how to advance adolescent literacy, and recommends the following about literacy planning:

- Addressing literacy at the school level: Successful 'beat-the-odds' schools are distinguished by at least seven vital components, including strong instructional leadership that includes leaders working in partnership with teachers, literacy coaches and other skilled experts to ensure successful implementation of critical programs… A literacy leadership team is centrally engaged in designing, supporting and overseeing the school's literacy work (p 36).

- Addressing literacy at the district level: The task of improving adolescent literacy would be substantially easier with appropriate support and guidance from districts. … some actions that will help:
    - Align accountability systems to the goal of improved literacy, including reorganizing traditional district hiring, curriculum-setting, and finance practices.
    - Increase communication and contact between schools
    - Develop a coherent assessment system based on real-time data that maximizes the utility of information. The data can be used to enforce common expectations for students across schools.
    - Allocate resources in accordance with strategic literacy priorities.

The Keys to Literacy Planning model supports the development of literacy plans at both the school and district levels.

What is the best way to develop a literacy plan?

There is strong evidence that an effective literacy plan is one that has been developed by a team of people who represent the major stakeholders in the schools and district. In *Creating a Culture of Literacy* (2005), it is noted that the first thing a principal must do to improve literacy in a school is to organize a Literacy Leadership Team (LLT) composed of administrators, content teachers, resources teachers, literacy coaches, and other key stakeholders. The LLT develops a list of needs and suggestions for improvement – over time the leadership ability of the LLT will enable the building to develop a Literacy Improvement Action Plan.

McEwan (2001) reviews the research on the importance of building literacy leadership teams, and suggests that such a leadership team is essential for improving literacy skills. Teachers will be more committed to implementation when they are involved from the beginning in making important decisions about how to reach the goals. Shared decision making has also been shown to increase job satisfaction (Ashton & Webb, 1986), create ownership leading to a more positive attitude toward the organization (Beers, 1984), and engender a more professional environment within the school (Apelman, 1986).

When Keys to Literacy begins working with a school or district to develop a literacy plan, the first step is to identify a literacy planning team that represents all of the stakeholders (i.e., classroom teachers, specialists, administrators, parents and community members). The model emphasizes strong leadership, not just by the top administrators, but also shared leadership through sub-committee planning chairs. The planning process is collaborative and designed to foster teamwork.

The *Time to Act* report (2010) notes that the experience from the Reading First program (part of the No Child Left Behind Act) demonstrated that effective research-based instructional practices can be brought to scale. The report identifies five essential factors that have proven to be effective in reforming schools to promote a higher level of literacy:

- improved classroom instruction,
- rigorous assessment,
- carefully designed professional development,
- structured accountability, and
- increased and ongoing funding. (p. 17)

The report also suggests that "States can help to ensure a comprehensive approach to literacy improvement by requiring districts to create K-12 literacy plans. A good K-12 literacy plan would involve the district's plan for professional development, materials, assessments, interventions, and all the other key components of quality literacy instruction." (p.52)

The Massachusetts Department of Elementary and Secondary Education Guidelines for Developing and Effective District Literacy Action Plan (2010) include the following recommendations regarding what a strategic literacy plan is, and why it is important:

> There is emerging literacy about the common characteristics of districts that successfully mobilize to improve student achievement. These characteristics stay constant regardless of size of district or student need. Successful districts put in place systems and processes for supporting change and continuous improvement. These systems and processes are comprehensive and strategic and include an intense focus on instruction; thoughtful, ongoing teacher professional development; the role of vision and communication in mobbing a whole district into continuous improvement; clarity and accountability related to staff roles and structures; and how data informed decision-making helps these districts initiate and keep their change efforts on track (Shannon & Bylsma, 2004), WestEd, 2002). (p. 2)

The guidelines propose the following critical components for effective district literacy initiatives:

- Key Practices
  - Systematic data use
  - K-12 standards-based curriculum
  - Tiered system of literacy instruction and interventions
  - Family and community involvement
- Key Supports
  - District structures
  - Professional development
  - Resource allocation
  - Policies and procedures

The Florida Department of Education currently mandates that school districts develop and revise on annual basis district literacy plans. The components that must be addressed in these plans include:

- District and school level leadership
- Professional development
- Elementary assessment, curriculum and instruction
- Middle school assessment, curriculum and instruction
- High school assessment, curriculum and instruction

The Keys to Literacy planning model is organized around the following essential planning components:

1. Leadership
2. Assessment planning to guide instruction
3. Instruction for all students
4. Intervention for struggling students
5. Flexible grouping and scheduling
6. Professional development
7. Resources (technology, personnel, funding, time)
8. Parents and community

The planning process is organized into stages. During the initiation stage the school/district forms a committee representative of the key stakeholders. This committee is provided professional development on literacy, tiered instruction, assessments and the components of the literacy planning model. This committee then works together to collect detailed data on current practices involving each of the 8 essential components during the self-assessment phase. After the data has been collected and evaluated for strengths, weaknesses, and critical needs, the committee transitions into the planning stage. At the planning stage, the committee develops measurable goals for the school/district to achieve that are based on the 8 essential components designed to support effective tiered literacy instruction. During this planning process, the committee also discusses the issue of sustainability and formulates goals and action steps to sustain the plan over many years (e.g., processes for modifying goals as needs change or they are achieved). Once consensus has been reached on the goals and action steps have been identified, the next stage is implementation. Implementation is an ongoing process with specific progress monitoring procedures in place for adherence to the plan and moving towards achievement of the goals.

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Research on the Keys to Literacy Professional Development Approach

In order to have a lasting, sustainable impact on instruction, quality professional development must be more than individual workshops or training days. Snow-Renner and Lauer (2005) conducted a meta-analysis of effective professional development for teachers. In doing so, they found that "professional development that is most likely to positively affect a teacher's instruction is:

- Of considerable duration
- Focused on specific content and/or instructional strategies rather than general
- Characterized by collective participation of educators, in the form of grade-level or school-level teams
- Infused with active learning rather than a stand-and-deliver model." (p. 6)

Sailors (2009) reviewed the literature about professional development of teachers and concluded the following:

- Professional development that focuses on specific instructional practices increases the use of those practices by teachers in their classrooms (Desimone et al., 2002)
- Teachers need proof that the topics and practices of professional development activities actually work with students (Butler et al, 2004)
- Teachers describe "one shot" models of professional development (i.e., a single in-service day without follow up) as boring and irrelevant and report that they forget 90% of what was presented to them (NCES, 1999)
- Teachers report they want more and better in-service support (Anders, Hoffman, & Duffy, 2004)

The recommended professional development model for implementing ***Keys to Literacy*** program provides hands-on training that enables teachers to apply the research on strategy instruction in their classrooms. This professional development ensures that teachers gain foundational knowledge about how to teach comprehension and vocabulary in order to address the shortcomings of classroom reading programs and that they will know how to teach comprehension throughout the school day using reading material from any subject. Keys to Literacy professional development provides follow-up training, including the training of building-based coaches and opportunities for guided practice and/or small-group share sessions.

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