



# An Analysis of Comprehension Strategies and Skills Covered within Grade 3–5 Reading Textbooks in the United States

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## Abstract

This study examined the comprehension skills and strategies presented in current reading textbooks used within the United States as a means of describing a contributor to the ecological component of reading. The ways in which comprehension skills and strategies are distributed across genres as well as connected to the National Reading Panel recommendations were also examined. Reading textbooks for grades 3, 4, and 5 from the Journeys (Scope and sequence grades K-6. <https://www.hmco.com/programs/journeys/about>, 2017), SRA Open Court (Scope and sequence grades 3-5. <https://www.mheducation.com/prek-12/program/open-court-reading-20162016/MKTSP-THA14M0.html>, 2016), Reading Street (Afflerbach et al. in Reading Street (Grade 3, vol 1). Pearson, Glenview, 2011a, Reading Street (Grade 3, vol 2). Pearson, Glenview, 2011b, Reading Street (Grade 4, vol 1). Pearson, Glenview, 2011c, Reading Street (Grade 4, vol 2). Pearson, Glenview, 2011d, Reading Street (Grade 5, vol 1). Pearson, Glenview, 2011e, Reading Street (Grade 5, vol 2). Pearson, Glenview, 2011f), Reach (Frey et al. in Reach (Grade 3). Hampton-Brown, Jefferson City, 2011a, Reach (Grade 4). Hampton-Brown, Jefferson City, 2011b, Reach (Grade 5). Hampton-Brown, Jefferson City, 2011c), and Wonders (Scope and sequence grades 3, 4, and 5. <https://www.mheducation.com/prek-12/program/microsites/MKTSP-BGA07M0/wonders.html>, 2020) series were analyzed for the comprehension skills and strategies covered in each lesson. Analysis revealed a lack of coverage of comprehension skills and strategies across most textbooks. Further, comprehension skill and strategy instruction by genre was very sporadic and strategies recommended by the NRP were often inadequately addressed by the textbooks examined. Findings of this study point to the need for educators to critically examine the textbooks used for reading instruction within their classrooms.

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## 1 Introduction

National and state reading assessments indicate that upper elementary students (i.e., grades 3, 4, and 5) have trouble with reading comprehension. Despite this being the time when students are typically expected to move from learning to read to reading to learn (Chall 1983), the majority of fourth grade students in the United States are reading at or below the basic reading level (National Assessment of Educational Progress [NAEP] 2017). Further, reading comprehension does not significantly improve as students enter middle or high school (NAEP 2017).

Models of reading typically focus on language comprehension, decoding skills, and comprehension strategy use (Gough and Tunmer 1986; Hoover and Gough 1990; McKenna and Stahl 2009). However, reading development does not happen in a vacuum, and the materials used for reading instruction matter. The Component Model of Reading (CMR) proposed by Aaron et al. (2008) includes psychological and ecological components that also influence the development of reading skills (Fig. 1). Home, school and classroom environment, student culture, and language all contribute to the ecological environment. While many of these factors may vary widely between students, the textbooks used for instruction within classrooms are one of the most standardized elements of the ecological environment that influence reading skill.

The purpose of this article is to describe comprehension skills and strategies presented in current reading textbooks used within the United States as a means of describing a contributor to the ecological component of reading (Aaron et al. 2008). Providing a deeper insight into this particular element of the ecological component of reading will hopefully, in turn, promote a more thorough understanding of additional elements of this component, such as instructional practices, as well as the other components of the CMR (i.e., cognitive and psychological).

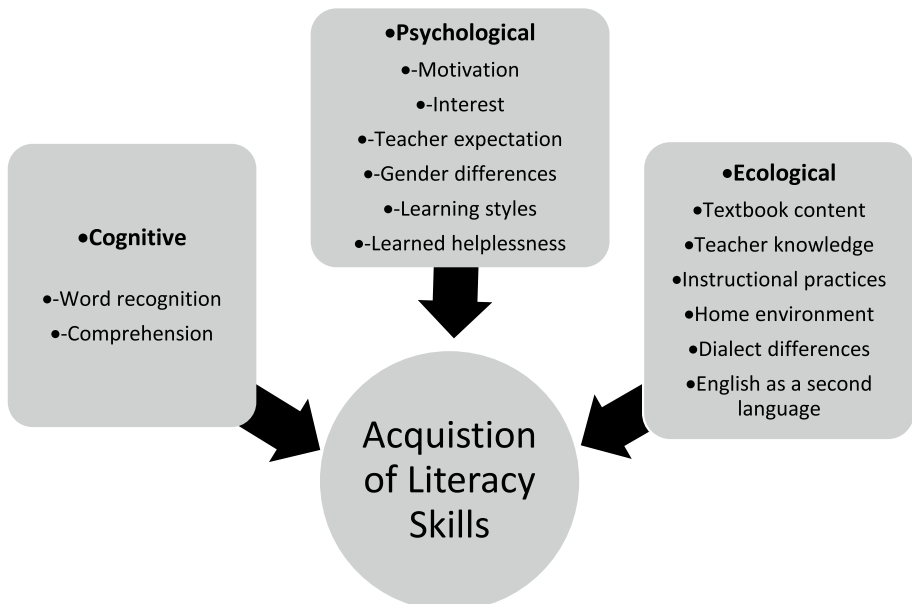


Fig. 1 Component model of reading (Aaron et al. 2008)

## 2 Education in the United States

The United States today has approximately 14,000 public school districts encompassing around 98,000 schools (NCES 2017). There are approximately 50.6 million students enrolled in U.S. public schools, with 70% of the students attending pre-K through Grade 8 (NCES 2017). Currently, 49% of students enrolled across the United States identify as White, 26% as Latinx, 15% as Black, 5% as Asian/Pacific Islander, 3% as two or more race, 1% as American Indian/Alaska Native and 1% as other. However, these breakdowns fluctuate greatly based on geographic and socio-economic lines.

Additionally, 14% of public-school students in the United States receive special education services. However, the NCES reports that 63% of students in special education attend a general education classroom for most of their school day (i.e., 80% or more of their time). Additionally, 4.9 million students (9.6%) are English Language Learners (ELLs), and 52.1% of students are eligible for free/reduced lunch.

The United States does not have a national set of curriculum standards. However, the majority of states in the U.S. follow the Common Core State Standards. Other states, such as Texas, Virginia, and Nebraska, have outlined their own guidelines for student learning across curricular areas. In slightly more than half of the states, textbook adoption is generally left to the local education agency or school district, with some states providing suggestions of textbooks to be used (NCES 2017). In the remaining states, textbook selection is determined at the state level. However, no matter how textbooks are selected, each textbook must be able to provide high quality instruction to the diverse students that participate in the American public-school system.

## 3 The National Reading Panel and Text Comprehension Instruction

The National Reading Panel (NRP) (National Institute of Child Health and Human Development [NICHD] 2000) outlined five components necessary for effective reading instruction: phonemic awareness, phonics, fluency, vocabulary, and comprehension. While we acknowledge the important role all of these components play in skilled reading, this article is concerned with only one area: text comprehension instruction. As readers read, it is expected that they are not only decoding the words on the page but developing meaningful representations of the text as well. The ability to develop meaningful representations of text requires the use of comprehension strategies. The NRP (2000) defines comprehension strategies as “procedures that guide students as they attempt to read and write” (4–40) and recognizes comprehension strategies as a tool to support student reading, “independent of the teacher” (4–40). Through an extensive review of research, the NRP concluded that seven comprehension strategies had strong scientific support for improving comprehension. These strategies include asking (generating) questions, answering questions, comprehension monitoring, recognizing story structure, cooperative learning, graphic and semantic organizers, and summarization. Seeing as these seven strategies have strong scientific support, it would be expected that the reading curriculum and materials used in classrooms today would include instruction around these key strategies.

Basal or core reading programs (CRP) are frequently the main source of reading instructional materials for elementary students. According to a 2010 report, a basal reading series was the primary source used for classroom reading instruction by approximately 74% of

elementary schools and teachers (Dewitz et al. 2009). All authors also report having CRPs available for reading instruction during their time in the classroom.

In Durkin's (1981) seminal study, the comprehension curriculum of five CRPs for kindergarten through grade 6 were examined. Across the five programs, which were not explicitly named, Durkin noted a lack of direct, explicit instruction and found skills were often presented in isolation. Additionally, teachers were excessively prompted to ask students questions about the text that was read, but instruction did not include information about how to answer questions. Several studies since then have corroborated Durkin's (1981) findings regarding the paucity of direct, explicit comprehension instruction found within CRPs (Beerwinkle et al. 2018; Dewitz et al. 2009; Franks et al. 1997; Miller and Blumenfeld 1993; Schmitt and Hopkins 1993).

Dewitz et al. (2009) investigated the 2005 edition of five textbooks (i.e., McGraw- Hill Reading, SRA Open Court, Harcourt Trophies, Houghton Mifflin Reading, and Scott Foresman Reading) commonly used in grades 3, 4, and 5 for effective comprehension instruction as suggested by the National Reading Panel report (NICHD, 2000). The authors, who did not detail results by reading series specifically, concluded that (1) comprehension skill and strategy instruction was superficial and often disconnected, (2) CRPs rarely (i.e., less than 10% of the instructional moves) allowed time for guided practice of comprehension skills and strategies, and (3) CRPs do not promote independent use of comprehension skills and strategies within students. While some effective comprehension strategies recommended by the NRP were taught (e.g., making inferences, story structure, summarizing), overall, the textbooks examined did not provide the explicit instruction of comprehension strategies needed to ensure students' master these skills. Rather than providing students with explicit instruction on when and why to use a repertoire of comprehension strategies, the CRPs frequently (i.e., over 70% of the time) instructed teachers to ask questions about the text being read.

Beerwinkle et al. (2018) also found a lack of explicit comprehension skill and strategy instruction within CRPs (i.e., Texas Journeys and Scott Foresman Reading Street) for grades 3, 4, and 5. This analysis revealed the textbooks generally taught comprehension skills in isolation through a "skill of the week" rather than in an explicit and systematic manner as suggested by the NRP (2000). Further, across all textbooks, skill and strategy instruction was limited and frequently provided through vague means.

Pilonieta (2010) investigated the research-based comprehension strategy instruction included in five popular CRPs (i.e., Harcourt, Houghton Mifflin, Macmillan, SRA Open Court, Scott Foresman) for grades 1, 3, and 5. Analysis revealed that two-thirds of comprehension skills and strategies instruction in the textbooks was considered research-based. However, teacher questioning was observed regularly across most CRPs, accounting for the most frequent instructional strategy suggested in Grades 3 and 5 of Harcourt, all grades of Houghton Mifflin, Grade 3 of SRA Open Court, and Grades 3 and 5 of Scott Foresman. Similar to other findings discussed (Beerwinkle et al. 2018; Dewitz et al. 2009; Durkin 1981), Pilonieta found comprehension skills and strategies were often taught in isolation, with little instruction provided to students on how to connect and apply the strategies being learned. This absence of systematic instruction for comprehension strategies may, Pilonieta argues, "limit the efficacy" (168) of reading textbooks and thus, changes to CRPs need to be made.

While improving CRPs to align with scientific reading research may seem straightforward, federal education legislation such as No Child Left Behind and the current Every Student Succeeds Act (ESSA) ripple through all areas of education including CRPs. A quick review of major textbook publisher's websites shows that providing research/

evidence-based instruction, a key point of ESSA, is used as a top selling point for selection of the company's CRPs. However, researchers (Chambliss and Calfee 1998; Dewitz and Jones 2013) caution educators that CRPs are often developed and driven by educational trends rather than scientifically based reading research. Consequently, Dewitz and Jones emphasize instructional materials, such as CRPs, should be used in conjunction with teachers' professional judgement. In order to exercise professional judgement, teachers must be aware of the instructional content included within CRP textbooks and how it aligns with scientific research on reading comprehension.

This study builds on previous research (Beerwinkle et al. 2018; Dewitz et al. 2009; Durkin 1981; Pilonieta 2010) through a focus on updated textbooks. The purpose of the present study is to examine a specific element of the ecological environment component of reading. Specifically, this study analyzed the frequency of comprehension skills and strategies in top CRP textbooks for grades 3, 4, and 5. Reading textbooks from grades 3, 4, and 5 were selected because these are the grades where students typically move from learning to read and begin to strengthen their ability for reading to learn, which requires a strong focus on comprehension (Chall 1983). Our analysis focused on answering three questions: (1) What are the frequencies of comprehension skills and strategies utilized within current core reading program textbooks? (2) How are comprehension skills and strategies covered within core reading programs distributed across genre? (3) Finally, do the comprehension skills and strategies covered in core reading programs connect to the National Reading Panel recommended comprehension strategies?

## 4 Method

### 4.1 Textbook Analysis

Reading textbooks for grades 3, 4, and 5 from the Journeys (2017), SRA Open Court (2016), Reach (Frey et al. 2011a, b, c), Reading Street (Afflerbach et al. 2011a, b, c, d, e, f), and Wonders (2020) series were analyzed for the comprehension skills and strategies covered in each lesson. The first and second author selected the textbook series based on three criteria: (1) the textbook was published by a major P-12 educational publishing house, (2) the textbook presented traditional instruction (i.e., did not use reading workshops or balanced literacy), (3) the textbook represented the current on-level English language reading curriculum of the publisher (i.e., was not designed specifically for English Language Learners or for reading intervention). The names of the textbook series are provided because one intent of this study is to provide teachers, school administrators, and other school curriculum stakeholders with an open and objective audit of how recent textbooks address comprehension instruction.

### 4.2 Comprehension Skills and Strategies.

The first and second authors conducted the analysis of comprehension strategies and skills covered within the Journeys (2017), SRA Open Court (2016), Reading Street (Afflerbach et al. 2011a, b, c, d, e, f), Reach (Frey et al. 2011a, b, c), and Wonders (2020) reading textbook series based on an objective count of comprehension skills and strategies explicitly stated in the table of contents or scope and sequence provided by the publisher. Figures 2 and 3 show an example of the table of contents for Reading Street and the scope and

<b>Week 2</b>	
Let's Talk About Taking Risks . . . . .	202
Comprehension: Sequence/Inference . . . . .	93
Vocabulary: Unknown Words . . . . .	93
literary nonfiction / social studies	
<b>Hold the Flag High</b> . . . . .	<b>208</b>
By Catherine Clinton	

**Fig. 2** Excerpt from Scott Foresman reading street, table of contents, grade 5

**Fig. 3** Excerpt from Journeys, scope and sequence, grade 3

Lesson	Selections	Text-Based Comprehension
1	<p><b><u>Anchor Text</u></b> A Fine, Fine School <b>Genre:</b> Humorous Fiction</p> <p><b><u>Paired Selection</u></b> One-Room Schoolhouses <b>Genre:</b> Informational Text</p>	<p><b><u>Target Skill</u></b> Story Structure</p> <p><b><u>Target Strategy</u></b> Summarize</p> <p><b><u>Supporting Skill</u></b> Analyze Illustrations</p>

sequence from Journeys, respectively. Each textbook series, excluding Reach, provided a clearly identified comprehension skill and comprehension strategy for each lesson.

Rather than stating the comprehension skills and strategies for each lesson, the Reach (Frey et al. 2011a, b, c) series provided a list of skills and strategies broken into three categories- Language, Literacy, Content. Further investigation in the textbooks showed that each lesson had a section titled “Thinking Map” and a section titled “Strategic Reading” that focused on a specific strategy or skill listed under the Literacy section in the table of contents for that lesson. Based on the title and focus of instruction, the “Strategic Reading” items were coded as comprehension strategies, and the “Thinking Map” items were coded as comprehension skills.

The first author reviewed the table of contents for the Journeys (2017), Reach (Frey et al 2011a, b, c), and Reading Street (Afflerbach et al. 2011a, b, c, d, e, f) textbook series and entered the comprehension skill or strategy identified as the focus of the lesson into an Excel spreadsheet. A =COUNTIF formula within the Excel spreadsheet was used to tally the total number of comprehension skills and strategies used within each series. The second author reviewed the publisher provided scope and sequence for the Wonders (2020) and SRA Open Court textbooks series and similarly tallied the number of lessons in which each comprehension skill or strategy was the focus using the same Excel spreadsheet as the first author. The percentage of lessons covering each skill or strategy was calculated within the Excel spreadsheet. The number of lessons identified as focusing on the skill or strategy was divided by the total number of lessons in the textbook and then multiplied by 100 to provide a percentage. Table 1 presents the skills and strategies listed for each textbook series.

To analyze how comprehension skills and strategies were distributed across genre, the second author coded the main text associated with each lesson as nonfiction, fiction,

**Table 1** Strategies and skills covered by textbook

Wonders	SRA open court	Journeys	Reach	Reading street
Strategies	Asking and answering questions	Analyze/Evaluate	Asking questions	Back ground knowledge
Make predictions	Clarifying	Infer/Predict	Choose a reading strategy	Important ideas
Reread	Making connections	Monitor/Clarify	Determine importance	Inferring
Summarize	Predicting	Question	Make connections	Monitor and clarify
Visualize	Summarizing	Summarize	Make inferences	Plot/Inferring
	Visualizing	Visualize	Plan & monitor	Predict and set purpose
			Synthesize	Questioning
			Use a reading strategy	Story structure
			Visualize	Summarize
				Text structure
				Visualize

Table 1 (continued)

Skills	Wonders	SRA open court	Journeys	Reach	Reading street
Author's point of view	Author's point of view	Cause and effect	Author's purpose	Cause and effect	Author's purpose
Cause and effect	Cause and effect	Classify and categorize	Cause and effect	Character & plot	Cause and effect
Character, setting, plot: sequence	Character, setting, plot: sequence	Compare and contrast	Compare and contrast	Classify Details	Compare and contrast
Main idea and key details	Main idea and key details	Fact and opinion	Conclusions	Compare & contrast	Draw conclusions
Point of view	Point of view	Main idea and details	Fact and opinion	Goal & outcome	Fact and opinion
Problem and solution	Problem and solution	Making inferences	Main ideas and details	Imagery	Generalize
Sequence	Sequence	Sequence	Sequence of events	Main idea & details	Graphic sources
Text structure: compare and contrast	Text structure: compare and contrast		Story structure	Make comparisons	Character, setting, theme
Text structure: sequence	Text structure: sequence		Story structure: problem and solution	Opinion & evidence	Main idea
Theme	Theme		Text and graphic features	Plot	Sequence
			Understanding characters	Sequence	Theme and setting
				Steps in a process	
				Theme	



drama, poetry, or other. The authors functionally defined nonfiction as text based on facts and real people and/or events. Nonfiction included texts listed as biography, informational text, and persuasive article as well as others. Fiction was functionally defined as text that describes fabricated people and/or events. The texts coded as fiction ranged from realistic fiction to tall tales and fables. Drama was defined as a text that followed a standard script format. Similarly, texts that followed typical poetry norms were coded as poetry.

### 4.3 National Reading Panel Recommended Comprehension Strategies.

The first and second authors used the constant comparative procedure (Glaser and Strauss 1967) to compare different sources in order to verify the accuracy of definitions for each of the seven comprehension strategies supported by the NRP (Armbruster et al. 2001; NICHHD 2000; Shanahan 2005). Based on these definitions, the first author coded each comprehension skill and strategy for connections to the National Reading Panel (NICHHD 2000) list of seven comprehension strategies shown to have a solid research base for improving reading comprehension (i.e., comprehension monitoring, cooperative learning, use of graphic and semantic organizers, question answering, question generation, recognizing story structure, summarization). Because the selected textbooks did not treat comprehension skills and strategies as significantly different practices in lessons, the authors did not differentiate between skills and strategies when coding for connections to the National Reading Panel.

The second author also coded the comprehension skills and strategies, and any disagreement in coding was discussed until a consensus was reached. The authors are aware that some strategies and skills lie within the “blurry edges” of NRP recommended strategies and could possibly fit into multiple areas. However, for the purpose of this study, an attempt was made to code strategies and skills as connecting to one NRP (NICHHD 2000) recommended comprehension strategy. An exception to this included variations of questioning strategies and skills because it was unclear through the materials if the strategy/skill was solely answering questions, generating questions, or a combination of both. Therefore, most question related skills and strategies were coded as both answering questions and generating questions. It should be noted that all series included strategies and skills which the authors agreed did not fit logically under the umbrella of any NRP recommended comprehension strategy and are therefore not counted in the NRP analysis portion of this study. The coding for including textbook comprehension skills and strategies under an NRP comprehension strategy was binary, either the comprehension skill and/or strategy for the lesson fell under the umbrella of a recommended strategy or it did not. This method of coding provided the total number of lessons that utilized a specific NRP recommended strategy as well as the percentage of lessons within the textbook that utilized a specific NRP recommended strategy.

The final definitions used by the authors for each NRP recommended skill and strategy, as well as the skills and strategies included within comprehension strategy, are defined as follows:

*Generating Questions* Students asking themselves questions throughout the reading process in order to remember information and find the answer to questions.

*Asking Questions* Asking students explicit and implicit questions before, during, and after reading to focus attention and engage in active thinking throughout the reading process in order to learn more from the text.

*Summarization* Identifying the most important information while also differentiating between supporting details and extraneous details, using prior knowledge of the content, and making generalizations or conclusions to create an organized and succinct representation of the text.

*Monitor Comprehension* Students pay attention to their own understanding of the text to identify areas of confusion and apply the proper skill to clarify their comprehension of the text.

*Recognizing Story Structure* Students identify and utilize the elements of plot structure to develop a deeper understanding of the story in narrative texts. For the purposes of this study, the authors have also included text structure of nonfiction text within this category in order to show representation of the structure strategy across text genres.

*Graphic Organizers* Organizing ideas and concepts within the text into a diagram in order to gain a deeper understanding of the text

*Cooperative Learning* Students working together to discuss (through peer teaching or interaction) reading comprehension strategies.

Neither graphic organizers nor cooperative learning were explicitly stated as a strategy or skill within the data collection materials used for this study but may be included within the materials of the textbook series. Therefore, for the purpose of this study, graphic organizers and cooperative learning are not counted as categories in NRP analysis. Table 2 lists the coding for the comprehension skills and strategies for each textbook series.

## 5 Findings

### 5.1 Comprehension Skills and Strategies

Analysis of comprehension skills and strategies covered in each textbook showed great variety in the percentage of lessons dedicated to each skill and strategy. The various comprehension skills were the focus of as few as 3% and as many as 53% of lessons and similarly the various strategies were covered in 3% to 58% of lessons. The number of lessons for each textbook also differed greatly. The Reach (Frey et al. 2011a, b, c) series each had 16 lessons per book, Wonders (2020) had 18 lessons per book, Reading Street (Afflerbach 2011) had 30 lessons per book, Journeys (2017) had 30 lessons per book, and SRA Open Court (2016) had 36 lessons per book.

### 5.2 Comprehension Strategies.

The frequency of each comprehension strategy utilized in each textbook series was calculated, and the results are presented in Tables 3, 4, 5, 6, 7. It can be observed that the number of strategies included in the text varies between textbooks, ranging from six to

**Table 2** Skills and strategies coded under national reading panel recommended comprehension strategies by textbook series

NRP recommended comprehension strategy		Textbook series			Reach
		Wonders	SRA Open Court	Reading street	Journeys
Asking questions	Ask and answer question	Ask and answer questions Making inferences	Ask and answer questions Making inferences	Questioning Inferring	Question Infer/Predict
Generating questions	Ask and answer questions	Ask and answer questions	Ask and answer questions	Questioning	Question
Summarize	Summarize Main idea/details	Summarizing Main idea and details	Summarizing Main idea and details	Generalize Main idea/details Important ideas Summarize Background knowledge Conclusions	Summarize Main idea/details Conclusions and generalizations Conclusions
Recognizing story structure	Sequence Character, setting, plot Problem and solution Compare and contrast Cause and effect	Sequence Character, setting, plot Problem and solution Compare and contrast Cause and effect	Cause and effect Compare and contrast Sequence	Cause and effect Compare and contrast Plot and theme Sequence Story structure Text structure	Cause and effect Contrast Sequence of events Story structure Problem/solution
Monitor comprehension		Clarifying Confirming/revising predictions	Monitor and clarify	Monitor and clarify	Monitor/clarify Plan and monitor

**Table 3** Count and percentages of times comprehension strategies are included in Journeys series

Comprehension strategy	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Analyze/evaluate	5	17	3	10	5	17
Infer/predict	6	20	6	20	5	17
Monitor/clarify	4	13	5	17	5	17
Question	5	17	5	17	5	17
Summarization	5	17	6	20	5	17
Visualize	5	17	5	17	5	17

**Table 4** Count and percentages of times comprehension strategies are included in SRA Open Court series

Comprehension strategy	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Asking and answering questions	16	44	14	39	11	31
Clarifying	13	36	13	36	20	56
Confirming predictions	n/a	n/a	1	3	n/a	n/a
Making connections	12	33	14	39	21	58
Predicting	12	33	13	36	15	42
Revising predictions	n/a	n/a	1	3	n/a	n/a
Revising/confirming predictions	n/a	n/a	12	33	n/a	n/a
Summarizing	12	33	15	42	17	47
Visualizing	14	39	13	36	10	28

**Table 5** Count and percentages of times comprehension strategies are included in Reading Street series

Comprehension strategy	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Background knowledge	3	10	3	10	3	10
Important ideas	3	10	3	10	3	10
Inferring	4	13	3	10	3	10
Monitor and clarify	3	10	3	10	3	10
Plot and inferring	1	3	n/a	n/a	n/a	n/a
Predict and set purpose	2	7	3	10	3	10
Questioning	3	10	3	10	3	10
Story structure	3	10	3	10	3	10
Summarize	3	10	3	10	3	10
Text structure	2	7	3	10	3	10
Visualize	3	10	3	10	3	10

eleven strategies depending on the series and grade level examined. The most frequently represented comprehension strategies for each reading series are discussed in the following paragraphs.

**Table 6** Count and percentages of times comprehension strategies are included in Reach series

Comprehension strategy	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Asking questions	2	13	2	13	2	13
Choose a reading strategy	1	6	1	6	1	6
Determine importance	2	13	n/a	n/a	2	13
Identify the main idea	n/a	n/a	1	6	n/a	n/a
Make connections	2	13	2	13	2	13
Make inferences	2	13	2	13	2	13
Plan and monitor	2	13	2	13	2	13
Summarize	n/a	n/a	1	6	n/a	n/a
Synthesize	2	13	2	13	2	13
Use a reading strategy	1	6	1	6	1	6
Visualize	2	13	2	13	2	13

**Table 7** Count and percentages of times comprehension strategies are included in Wonders series

Comprehension strategy	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Ask and answer questions	5	28	5	28	5	28
Make predictions	2	11	2	11	1	6
Make, confirm, and revise predictions	n/a	n/a	n/a	n/a	1	6
Reread	3	17	5	28	3	17
Summarize	3	17	3	17	4	22
Visualize	1	6	2	11	1	6

In the Journeys (2017) series, *infer/predict* (20%, six lessons) in Grade 3 and both *infer/predict* and *summarization* (20%, or six lessons, each) in Grade 4 were the most commonly represented comprehension strategies. However, all of the comprehension strategies outlined by Journeys were covered equally in Grade 5 (17%, or five lessons, each).

SRA Open Court (2016) covered *asking and answering questions* in the greatest percentage of lessons (44%, 16 lessons) in Grade 3, *summarizing* (42%, 15 lessons) in Grade 4, and *making connections* (58%, 21 lessons) in Grade 5. While SRA Open Court covered each comprehension strategy at a higher percentage than all of the other textbooks examined, it should be noted that textbooks in this series routinely contained between two and three comprehension strategies per lesson.

The Reach (Frey et al. 2011a, b, c) and Reading Street (Afflerbach et al. 2011a, b, c, d, e, f) series covered more comprehension strategies overall than Journeys (2017), SRA Open Court, or Wonders (2020). In the Reach series, *asking questions*, *make connections*, *make inferences*, *plan and monitor*, *synthesize*, and *visualize* were the most commonly represented comprehension strategies across all grades, with two lessons (13%) devoted to each strategy in each grade. Also, in Grade 3 and Grade 5, *determine importance* was covered in two lessons (13%), thus making it one of the most frequently

**Table 8** Count and percentages of times comprehension skills are included in Journeys series

Comprehension skill	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Author's purpose	2	7	3	10	3	10
Cause and effect	3	10	2	7	3	10
Compare and contrast	3	10	2	7	2	7
Conclusions and generalizations	4	13	3	10	3	10
Fact and opinion	1	3	2	7	3	10
Main ideas and details	3	10	3	10	3	10
Sequence of events	3	10	3	10	3	10
Story structure	4	13	4	13	3	10
Text and graphic features	3	10	3	10	2	7
Theme	1	3	2	7	4	13
Understanding characters	3	10	3	10	1	3

**Table 9** Count and percentages of times comprehension skills are included in SRA Open Court series

Comprehension skill	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Cause and effect	11	31	13	36	15	42
Classify and categorize	8	22	7	19	10	28
Compare and contrast	11	31	11	31	19	53
Fact and opinion	11	31	10	28	9	25
Main idea and details	11	31	14	39	11	31
Making inferences	13	36	16	44	16	44
Sequence	12	33	14	39	8	22

represented comprehension strategies for these grade levels as well. It should be noted that *determine importance* was not included in comprehension strategy instruction at all in Grade 4 within this series.

In the Reading Street (Afflerbach et al. 2011a, b, c, d, e, f) series, *inferring*, included in four lessons (13%), was the most covered strategy in Grade 3. All ten comprehension strategies outlined by Reading Street for instruction in Grades 4 and 5 were all covered equally at three lessons (10%) each.

In the Wonders (2020) series, *ask and answer questions* received the highest coverage across all grade levels at five lessons (28%) within each grade level textbook. Additionally, in Grade 4, *reread* was also covered in five lessons (28%).

### 5.3 Comprehension Skills.

Similar to comprehension strategies, it can be observed that the number of comprehension skills included in the text varies between textbooks and grade levels. Across textbooks, the percentage of lessons focusing on each comprehension skill varied widely but was generally under 25%. The frequency of each comprehension skill was calculated for each

**Table 10** Count and percentages of times comprehension skills are included in Reach series

Comprehension skill	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Analyze characters	n/a	n/a	1	6	n/a	n/a
Author's point of view	n/a	n/a	n/a	n/a	1	6
Cause and effect	3	19	2	13	2	13
Character	n/a	n/a	n/a	n/a	2	13
Character development	n/a	n/a	n/a	n/a	1	6
Character and plot	1	6	n/a	n/a	n/a	n/a
Classify details	1	6	n/a	n/a	n/a	n/a
Compare and contrast	1	6	1	6	1	6
Elements of fiction	n/a	n/a	1	6	1	6
Goal and outcome	1	6	n/a	n/a	2	13
Imagery	1	6	n/a	n/a	n/a	n/a
Main idea and details	2	13	3	19	2	13
Make comparisons	1	6	n/a	n/a	n/a	n/a
Opinion and evidence	1	6	n/a	n/a	n/a	n/a
Plot	1	6	3	19	1	6
Problem and solution	n/a	n/a	2	13	n/a	n/a
Sequence	1	6	1	6	1	6
Steps in a process	1	6	1	6	1	6
Theme	1	6	1	6	1	6

**Table 11** Count and Percentages of Times Comprehension Skills are Included in Reading Street Series

Comprehension skill	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Author's purpose	3	10	3	10	3	10
Cause and effect	3	10	3	10	3	10
Character and plot	n/a	n/a	1	3	n/a	n/a
Compare and contrast	3	10	3	10	3	10
Draw conclusions	3	10	3	10	3	10
Fact and opinion	3	10	3	10	3	10
Generalize	3	10	3	10	3	10
Graphic sources	3	10	3	10	3	10
Literary elements: character, setting, theme	2	7	2	7	2	7
Main idea and details	3	10	3	10	3	10
Plot and theme	1	3	n/a	n/a	n/a	n/a
Sequence	3	10	3	10	3	10
Theme and setting	n/a	n/a	n/a	n/a	1	3

textbook series, and the results are presented in Tables 8, 9, 10, 11, 12. The most frequently represented comprehension skills for each reading series are discussed below.

In the Journeys (2017) series, *story structure* and *conclusions and generalizations* were covered most frequently in Grade 3, with four lessons (13%) each. Similarly, in Grade 4, *story*

**Table 12** Count and percentages of times comprehension skills are included in Wonders series

Comprehension skill	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Author's point of view	2	11	2	11	4	22
Cause and effect	1	6	n/a	n/a	n/a	n/a
Character, setting, plot: compare and contrast	n/a	n/a	n/a	n/a	1	6
Character, setting, plot: sequence	1	6	n/a	n/a	1	6
Main idea and key details	2	11	3	17	1	6
Plot: problem and solution	n/a	n/a	2	11	n/a	n/a
Point of view	4	22	3	17	2	11
Problem and solution	2	11	n/a	n/a	n/a	n/a
Sequence	1	6	n/a	n/a	n/a	n/a
Text structure: cause and effect	n/a	n/a	1	6	3	17
Text structure: compare and contrast	1	6	1	6	n/a	n/a
Text structure: problem and solution	n/a	n/a	n/a	n/a	1	6
Text structure: sequence	1	6	2	11	n/a	n/a
Theme	3	17	4	22	5	28

*structure* was covered most often (13% or four lessons). In the Grade 5 textbook, the skill with the greatest coverage was *theme*, which was included in four lessons (13%).

Similar to the findings for comprehension strategies, the SRA Open Court series had a higher percentage of coverage for each comprehension skill than the other textbooks because multiple skills were addressed in each lesson. In both the SRA Open Court Grades 3 and 4 textbooks, *making inferences* was the most covered comprehension skill at 13 lessons (36%) and 16 lessons (44%), respectively. *Compare and contrast* was the comprehension skill covered most frequently in fifth grade with 19 lessons (53%).

In the Reach (Frey et al. 2011a, b, c) series textbooks, *cause and effect* was the most addressed comprehension skill at three lessons (19%) in Grade 3. In Grade 4, *main idea and details* and *plot* were equally covered at three lessons (19%) each. In the Grade 5 textbook, the most covered skills included *cause and effect*, *character, goals and outcomes*, and *main idea and details* at two lessons (13%) each.

For the Reading Street (Afflerbach et al. 2011a, b, c, d, e, f) series, nine skills were consistently covered at equal amounts across grade levels examined. *Author's purpose*, *cause and effect*, *compare and contrast*, *draw conclusions*, *fact and opinion*, *generalize*, *graphic sources*, *main idea and details*, and *sequence* were all covered in three lessons (10%) each for Grade 3, Grade 4, and Grade 5. While other comprehension skills were included in the textbooks, these nine skills were covered with the greatest frequency at all grades.

*Point of view* was the most covered skill at four lessons (22%) in the Grade 3 textbook of the Wonders (2020) series. However, for this same series, *theme* was the most covered skill in both Grade 4 and Grade 5, with four lessons (22%) and five lessons (28%) devoted to the skill, respectively.



### 5.4 Genre.

The analysis of comprehension skills and strategies across genres revealed that each textbook series overwhelmingly used fiction and nonfiction texts. Nonfiction texts accounted for 37–58% of lessons, fiction texts accounted for 38–53% of lessons, and drama and poetry accounted for 3–17% of lessons. Figure 4 shows the total percentage of lessons by genre for each textbook series. When reviewing the comprehension skills and strategies broken down by genre, the authors noticed textbooks frequently spent only one or two lessons per genre on a particular skill/strategy or only covered a skill/strategy in one genre (i.e., nonfiction) when another genre may also be applicable. For example, in the Grade 3 Journeys (2017) textbook, there is one nonfiction and one fiction lesson that covers author’s purpose, yet all three lessons on main idea are presented through nonfiction, meaning students in Grade 3 receive no instruction on main idea within fictional texts. Additionally, students receive three lessons on drawing conclusions using fictional text, but only one lesson using nonfiction. Figures 5, 6, 7, 8 and 9 present comprehension skill and strategy coverage by genre for each textbook series at Grade 3. These figures are representative of skill and strategy distribution for all grade levels.

### 5.5 National Reading Panel Recommended Comprehension Strategies

Comprehension skills and strategies coded as connecting to the seven NRP (NICHD 2000) recommended comprehension strategies were present across all textbooks and grade levels. The utilized National Reading Panel comprehension strategies for each textbook series are presented in Tables 13, 14, 15, 16, 17.

In the Journeys (2017) series, a minimum of one NRP recommended comprehension strategy was used in 87% of the Grade 3 lessons (26 lessons), 90% of the Grade 4 lessons (27 lessons), and 80% of the Grade 5 lessons (24 lessons). Across all Journeys’ grade level textbooks, recognizing story structure was one of the most commonly recommended strategies. It was present in 47% of lessons (14 lessons) at Grade 3 and 37% of lessons (11

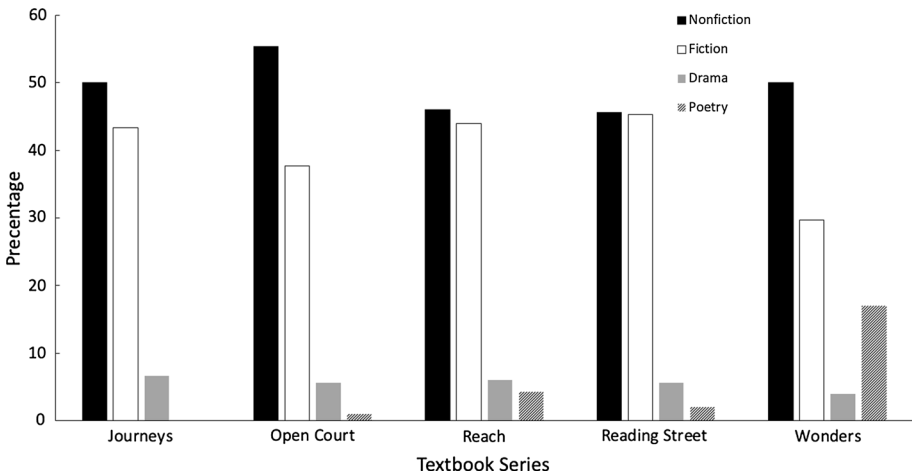
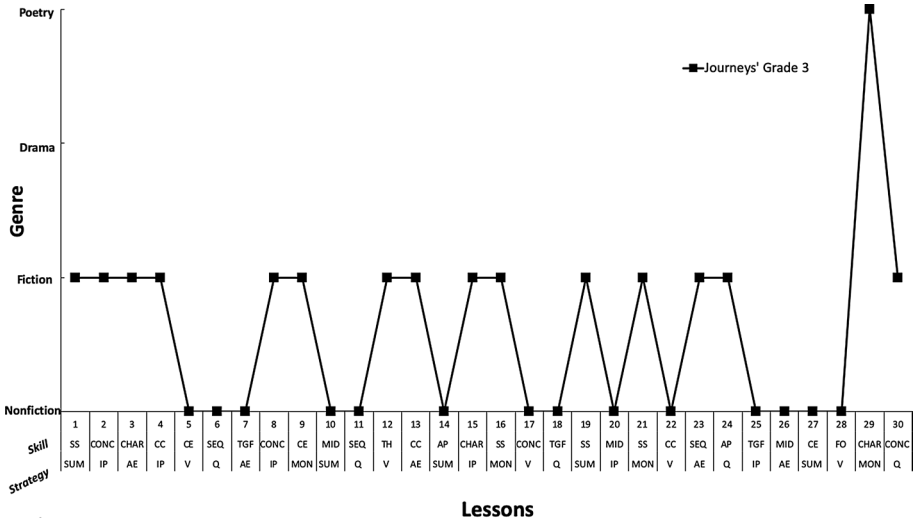
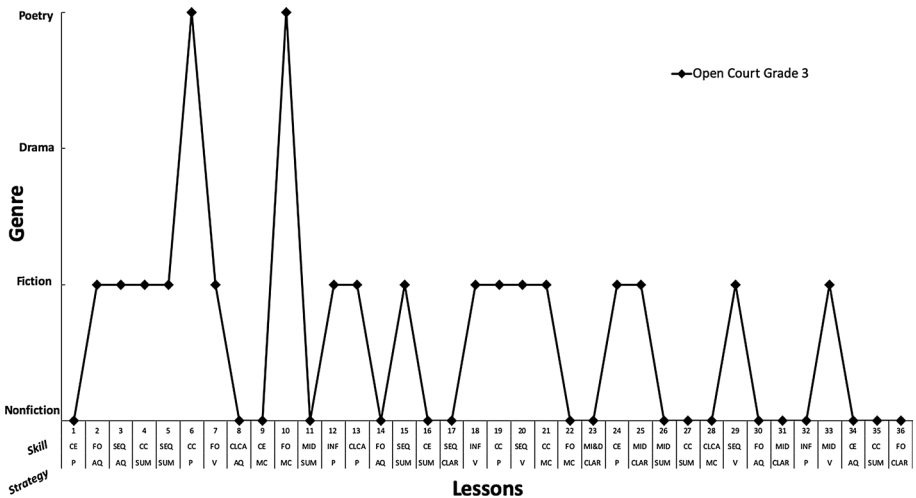


Fig. 4 Percentage of genre representation for grades 3–5 by core reading program for grades 3–5



**Fig. 5** Journeys grade 3 sequence of lessons by genre, skill, and strategy. *Note.* Skills: AP=author’s purpose; CE=cause and effect; CC=compare and contrast; CONC=conclusions; FO=fact and opinion; SEQ=sequence of events; SS=story structure; TGF text and graphic features; TH=theme; CHAR=understanding characters. Strategies: AE=analyze/evaluate; IP=infer/predict; MON=monitor/clarify; Q=question; SUM=summarize; V=visualize



**Fig. 6** Open Court grade 3 sequence of lessons by genre, skill, and strategy. *Note.* Skills: CE=cause and effect; CLCA=classify and categorize; CC=compare and contrast; FO=fact and opinion; MID=main idea and details; INF=making inferences; SEQ=sequence. Strategies: AQ=asking and answering questions; CLAR=clarifying; MC=making connections; P=predicting; SUM=summarizing; V=visualizing. *Note: Open Court incorporates multiple strategies and skills per lesson, yet the only the first skill and strategy listed in the scope and sequence are represented on this graph to maintain visual consistency with the other CRP graphs*

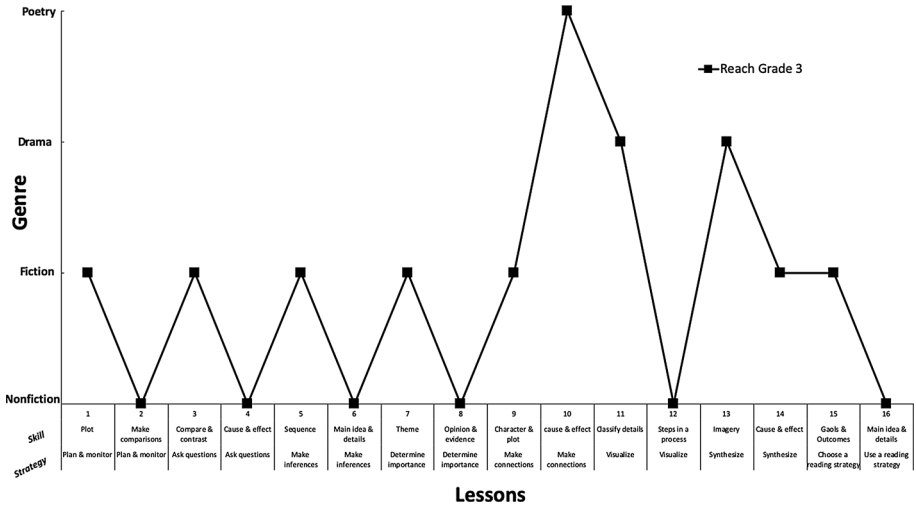


Fig. 7 Reach grade 3 sequence of lessons by genre, skill, and strategy

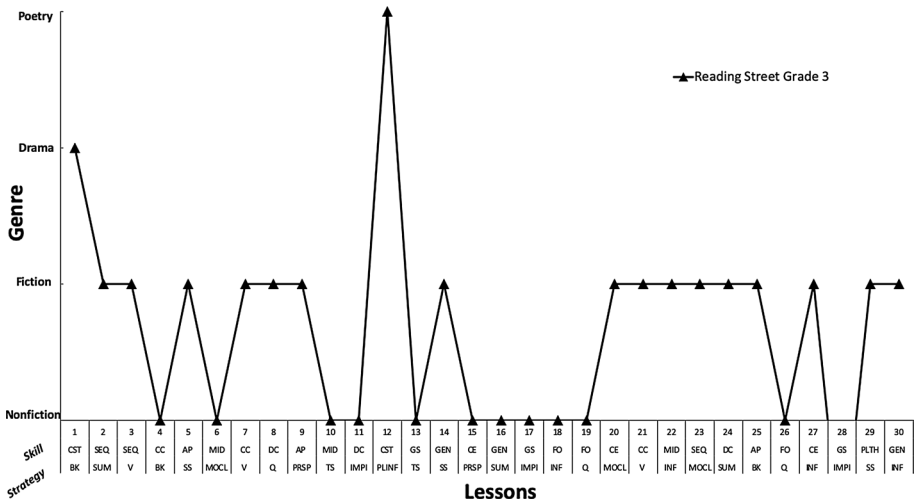


Fig. 8 Reading Street grade 3 sequence of lessons by genre, skill, and strategy. *Note.* Skills: AP=author’s purpose; CC=compare and contrast; CE=cause and effect; CST=literary elements: character, setting, theme; DC=draw conclusions; FO=fact and opinion; GEN=generalize; GS=graphic sources; MID=main idea and details; PLTH=plot/theme; SEQ=sequence. Strategies: BK=background knowledge; IMPI=important ideas; INF=inferring; MOCL=monitor and clarify; PLINF=plot/inferring; PRSP=predict and set purpose; Q=questioning; SS=story structure; SUM=summarize; TS=text structure; V=visualize. *Note: Week 28 genre was photo essay and is not represented with a genre data point on this graph to maintain a consistent y-axis among graphs*

lessons) at Grade 5. In Grade 4, both recognizing story structure and summarize were present in 44% of lessons (11 lessons).

SRA Open Court, due to the use of multiple skills and strategies in each lesson, had the highest percentage of lessons that included NRP recommended comprehension strategies.

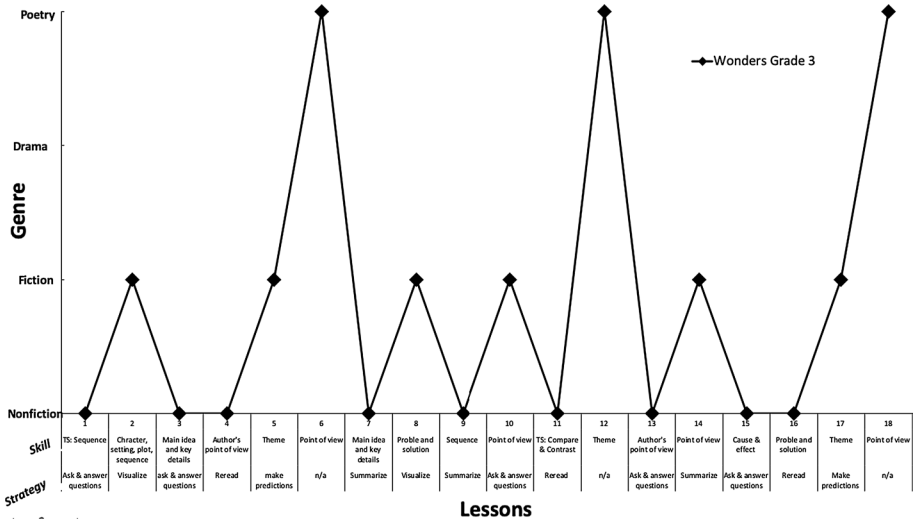


Fig. 9 Wonders grade 3 sequence of lessons by genre, skill, and strategy. Strategy: n/a=no strategy listed for the units focused on poetry

Table 13 Count of national reading panel recommended comprehension strategies in Journeys series

Recommended comprehension strategy	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Unique lessons utilizing NRP comprehension recommendations	26	87	27	90	24	80
Answering questions	10	33	9	36	10	33
Question						
Infer/predict						
Generating questions	4	13	4	16	5	17
Question						
Recognizing story structure	14	47	11	44	11	37
Cause and effect						
Compare and contrast						
Sequence of events						
Story structure						
Story structure: problem and solution						
Monitoring comprehension	4	13	5	20	5	17
Monitor/clarify						
Summarize	11	37	11	44	10	33
Conclusions and generalizations						
Main idea and details						
Summarize						

In Grade 3, 97% of lessons addressed an NRP recommended comprehension strategy. Moreover, in Grades 4 and 5, 100% of lessons addressed an NRP recommended comprehension strategy. Across Grades 3–5, recognizing story structure was the most common NRP recommended comprehension strategy covered with 72% (26 lessons), 78% (28 lessons), and 89% (32 lessons), respectively.

**Table 14** Count of national reading panel recommended comprehension strategies in SRA Open Court

Recommended comprehension strategy	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Unique lessons utilizing NRP comprehension recommendations	35	97	36	100	36	100
Answering questions	21	58	22	61	20	56
Asking and answering questions						
Making inferences						
Generating questions	16	44	14	39	11	31
Asking and answering questions						
Recognizing story structure	26	72	28	78	32	89
Cause and effect						
Compare and contrast						
Sequence						
Monitoring comprehension	13	36	23	64	20	56
Clarifying						
Revising predictions						
Revising/confirming predictions						
Summarize	19	53	24	67	24	67
Summarize						
Main idea of key details						

**Table 15** Count of national reading panel recommended comprehension strategies in Reach

Recommended comprehension strategy	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Unique lessons utilizing NRP comprehension recommendations	13	81	12	75	13	81
Answering questions	4	25	4	25	4	25
Asking questions						
Make inferences						
Generating questions	2	13	2	13	2	13
Asking questions						
Recognizing story structure	7	44	9	56	5	31
Cause and effect						
Compare and contrast						
Sequence						
Monitoring comprehension	2	13	2	13	2	13
Plan and monitor						
Summarize	6	38	7	44	5	31
Identify the main idea						
Main idea and details						
Summarize						
Synthesize						

In the Reach (Frey et al. 2011a, b, c) series, Grades 3 and 5 each had 81% of the total lessons (13 lessons) that utilized a minimum of one NRP recommended comprehension strategy. The Grade 4 textbook addressed an NRP strategy in 75% of the total lessons (12

**Table 16** Count of national reading panel recommended comprehension strategies in Reading Street

Recommended comprehension strategy	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Unique lessons utilizing NRP comprehension recommendations	27	90	29	97	28	93
Answering questions	7	23	6	20	6	20
Inferring						
Questioning						
Generating questions	3	10	3	10	3	10
Questioning						
Recognizing story structure	15	50	15	50	12	40
Cause and effect						
Compare and contrast						
Plot/infering						
Sequence						
Story structure						
Text structure						
Monitoring comprehension	3	10	3	10	3	10
Monitor and clarify						
Summarize	15	50	18	60	17	57
Background knowledge						
Draw conclusions						
Generalize						
Important ideas						
Main idea and details						
Summarize						

**Table 17** Count of national reading panel recommended comprehension strategies in Wonders

Recommended comprehension strategy	Grade 3		Grade 4		Grade 5	
	N	%	N	%	N	%
Unique lessons utilizing NRP comprehension recommendations	13	72	13	72	13	72
Answering questions	5	28	3	17	5	28
Ask and answer questions						
Generating questions	5	28	3	17	5	28
Ask and answer questions						
Recognizing story structure	7	39	6	33	6	33
Cause and effect						
Character, setting, plot: sequence						
Plot: problem and solution						
Problem and solution						
Sequence						
Text structure: cause and effect						
Text structure: compare and contrast						
Text structure: sequence						
Monitoring comprehension	3	17	5	28	4	22
Reread						
Summarize	4	22	5	28	5	28
Main idea and key details						
Summarize						

lessons). Again, recognizing story structure was the most common NRP recommended strategy across all grade levels, with 44% of lessons (seven lessons) in Grade 3 and 56% of lessons (nine lessons) in Grade 4 addressing the strategy. In Grade 5, both story structure and summarize were the most commonly used NRP recommended strategies, being represented in 31% of fifth grade lessons (five lessons) each.

In the Reading Street (Afflerbach et al. 2011a, b, c, d, e, f) series, Grades 3 and 4 each had 97% of the total lessons (29 lessons) utilize NRP recommended comprehension practices while Grade 5 of the Reading Street series had 93% of the total lessons (28 lessons). In the Reading Street series, story structure and summarize, included in 50% of the lessons (15 lessons) each, were the two most recognized NRP recommended strategies for 3rd grade. In Grades 4 and 5, summarize was the most frequently recognized NRP recommended strategy with 60% (18 lessons) and 57% (17 lessons), respectively.

In the Wonders (2020) series, all textbooks had 72% of the total lessons (13 lessons) that utilized an NRP recommended comprehension strategy. Similar to many of the other textbooks, recognizing story structure was the most commonly used NRP recommended strategy. The Grade 3 textbook covered this strategy in 39% of the lessons (seven lessons), and the Grades 4 and 5 textbooks each had 33% of the lessons (six lessons) devoted to it.

## 6 Discussion

This study investigated the comprehension skills and strategies presented in current reading textbooks used within the United States in order to describe factors which may influence the ecological component of reading within the CMR (Aaron et al. 2008). We also examined how comprehension skills and strategies within CRPs are distributed across genres and connected to the NRP (NICHD 2000) recommended comprehension strategies. Aaron and colleagues (2008) suggest that “a child can fail to acquire satisfactory levels of literacy skills because of deficits in any component” (69) of the CMR (i.e., cognitive, psychological, or ecological factors). Therefore, the CMR highlights the important role that ecological factors, such as instructional textbooks, may play in students’ reading development. Our findings provide a critical look at commonly used CRPs and the ways in which they may or may not promote reading development within Grade 3, 4, and 5 students. Through our analysis, we found a lack of coverage of comprehension skills and strategies across most textbooks. Further, comprehension skill and strategy instruction by genre was very sporadic, with some skills and strategies only being addressed in one genre. Additionally, strategies recommended by the NRP were often inadequately addressed by the textbooks examined. Below we discuss these findings in relation to other studies and their implications.

### 6.1 Comprehension Skills and Strategies

Through our analysis of the frequency of comprehension skill and strategy instruction, the most significant finding is the lack of coverage across most textbooks. With the exception of the SRA Open Court series, no skill or strategy was covered more than six times within a textbook. SRA Open Court was also the only textbook to apply the research-based strategy of explicitly teaching multiple comprehension strategies at once versus teaching one single strategy at a time (NICHD 2000; Shanahan 2005). Further, when broken down by genre, it became clear that the textbooks examined provide comprehension instruction

that is not only minimal but also highly segmented. This finding raises questions about the integration of the NRP (2000) guidelines and classroom instruction. While the NRP presents seven effective reading comprehension strategies that have strong scientific support, the report does not offer guidelines on how to utilize these components for effective reading comprehension instruction. In fact, the NRP suggests that future research examine the best ways to teach educators how to implement the supported strategies in order to develop effective reading comprehension instruction. Additionally, the NRP notes that there was not much attention given to the types of text used, thus leading to questions about whether the supported reading strategies are generalizable across various genres of text. These unanswered questions may be the root cause of the disconnected nature of reading comprehension strategy instruction found in most textbooks. With limited coverage of comprehension skills and strategies in CRPs, students are unlikely to get the consistent and repeated exposure necessary to develop mastery and improve reading comprehension, especially since CRPs often compromise most if not all of the reading curriculum (Beerwinkle et al. 2018; Dewitz et al. 2009).

Main idea and summarizing, two skills closely tied to overall reading comprehension, were minimally taught across Journeys (2017), Reach (Frey et al. 2011a, b, c), Reading Street (Afflerbach et al. 2011a, b, c, d, e, f), and Wonders (2020). Across all four of these series, no more than three lessons addressed main idea, and no more than six lessons were devoted to instruction on summarization. This means that students receive only three opportunities to learn, practice, and master main idea and six opportunities to learn, practice, and master summary. This concurs with the findings of Beerwinkle et al. (2018), Dewitz et al. (2009), and Pilonieta (2010), who found CRPs rarely covered any comprehension skill or strategy in a manner supported by scientific research, with most textbooks scarcely providing students with multiple exposures to a skill/strategy or time to practice the skill/strategy under expert guidance. In fact, Dewitz et al. (2009) claim that the lack of guided practice is the “missing link in most programs” (120).

For instance, the lack of instructional time given to summary, a critical skill that involves identifying important ideas as well as recognizing how those ideas are connected, highlights a major deficit found within the textbooks examined. Summary often serves as a proxy for reading comprehension and is frequently tested on state reading assessments. Yet, summary is only covered 36 times total across all grade levels for Journeys (2017), Reading Street (Afflerbach et al. 2011), and Wonders (2020), as well as only during Grade 4 for the Reach series (Frey et al. 2011a, b, c). This averages to 3.6 lessons on summary per year. However, when genre is taken into account the average number of lessons addressing summary drops to 1.9 for nonfiction and 1.3 for fiction. This minimal coverage, as others have pointed out, does not allow students the time needed to sufficiently practice, learn, and use the strategy independently (Dewitz et al. 2009). Despite the importance of summary and other reading comprehension skills and strategies, most current textbooks are not providing students with adequate practice to improve and master the concepts. This deficit within the ecological component of students’ reading instruction may contribute to the 63% of fourth grade students reading below the proficient level (NAEP 2017). Future studies should examine the amount of time devoted to direct, explicit instruction, guided practice, and independent practice for each skill/strategy to better understand how instructional time is allocated within CRP lessons. However, not all textbooks are created equal. The SRA Open Court series took a very different approach to skill and strategy instruction compared to the other four series. SRA Open Court was the only textbook to cover more than one comprehension strategy and skill per lesson. Similarly, Pilonieta (2010) found textbooks from Open Court suggested, on average, a statistically greater amount of



comprehension strategy instruction than the other textbook series examined (i.e., Macmillan, Harcourt, Houghton Mifflin, Scott Foresman). Within the SRA Open Court series we examined, students received 13, 15, and 17 instructional opportunities with summary in Grades 3, 4, and 5, respectively. This results in students covering summary in 45 lessons across third, fourth, and fifth grades, which is nine lessons more than the other four textbooks combined. Although the frequencies for all skills and strategies are higher for the SRA Open Court series, they are still generally below 50% of the overall lessons.

CRPs have traditionally focused more on fiction than non-fiction. Newton and Moss (2002) found narrative (45%) was covered at more than twice the rate of informational text (18%) in a study of 1997 CRPs. Yet, nonfiction is the primary genre that is read throughout the lifespan. While many individuals enjoy fiction, it is informational text that is consumed on a daily basis through newspaper articles, blogs, brochures, reports, and the like. To reflect this, educational standards, such as the Common Core, have moved toward standards that include comprehension of various types of informational texts rather than a majority focus on fiction. It also appears that CRPs are making similar changes. Pilonieta (2006) found basal readers published in 2003 had a more equitable distribution of texts by genre with narrative (36%) and informational text (33%) only a few percentage points away from each other. Our findings also show a trend toward more nonfiction/informational texts. However, as mentioned previously, comprehension skills and strategies within CRPs are not divided equally among genres (when applicable). More focused research needs to be conducted on the effects of genre in comprehension skill and strategy instruction.

## 6.2 National Reading Panel Recommended Comprehension Strategies

The strategies suggested by the NRP are based on studies in which the strategy was explicitly taught with intensity for four or more weeks. As Shanahan (2005) points out, most commercial textbook companies include the strategies recommended by the NRP, yet do not provide adequate time to teach the strategy to mastery. This study's findings support Shannahan's claim. The use of NRP recommended strategies was present in a minimum of 72% of lessons. Differing from Dewitz et al. (2009) and Pilonieta (2010), who found CRPs frequently (i.e., 75% of the time) instructed teachers to ask questions about the text being read, recognizing story structure was the most commonly used strategy within the textbooks examined by a large margin. Further, recognizing story structure was the most commonly utilized NRP recommended strategy across every textbook and grade level. However, recognizing story structure was not covered uniformly across the textbooks, with three to seven different strategies or skills across each of the five textbooks coded as connecting to recognizing story structure. This lack of continuity of strategy instruction leaves the students with a toolbox of reading comprehension strategies without the deeper knowledge needed to actually use them effectively.

Although knowledge of comprehension strategies is helpful, good readers must be able to utilize multiple strategies during the reading of a text. Effective strategy instruction not only teaches students to use strategies, but teaches them to do so with flexibility and through a combination of strategies if needed (NICHD 2000). However, Dewitz et al. (2009) suggested the scope and sequence of comprehension strategies in many basal programs lacks support from scientific research and is too broad, which often makes comprehension instruction confusing to both students and teachers. For example, Dewitz et al. (2010) highlight that basals tend to group reading selections by theme, such as Friendship, which may lead to comprehension strategy teaching that is sporadic and disconnected, a

belief supported by our findings. Rather than allowing students to build on the comprehension skills gained through the reading of a prior selection, CRPs tend to present a series of isolated skills focused on specific strategies for each lesson and limit the overlap of strategies across textbooks. Thus, CRPs do not support NRP recommendations that students be able to use multiple strategies effectively and flexibly, which may be another consequence of the lack of specificity regarding the implementation of the supported strategies found in the NRP report.

### 6.3 Limitations and Future Directions

This study focused on the scope and sequences and tables of contents of current Grades 3, 4, and 5 core reading program textbooks. As a result, this study cannot present on the instructional moves suggested to teachers or the instructional information provided to students within the texts. Additionally, this study cannot make any determinations about the actual frequency (i.e. before, during, after reading instruction or questions) of comprehension skills or strategies compared to the reported frequency (i.e., scope and sequence and table of contents). The focus of this study also excluded comprehension skill or strategy practice (i.e. during and after reading questions) and can therefore make no conclusions about the relationship between the comprehension skills and strategy reported to be the focus of the lesson and the assessment of those skills. Further, the authors only analyzed the strategies and skills suggested by the CRPs within each unit, yet are aware that teachers often supplement instruction with their own teacher knowledge. Future directions for study could include an analysis of CRPs compared with actual teacher implementation of the instruction.

The next steps for the authors are to analyze the comprehension skill and strategy instruction that is provided to students within the pages of the textbooks as well as the instructional moves suggested to teachers. The authors also plan to analyze the frequency and depth of comprehension skill and strategy instruction in comparison to reported coverage to develop a more precise picture of the comprehension instruction provided to students. Future directions also include a deeper analysis of each comprehension strategy and skill presented within each genre of reading, as well as how the reading comprehension strategies align with the writing instruction strategies presented within each unit of study.

Despite these limitations, the present study adds to the understanding of comprehension skill and strategy instruction found in current reading textbooks used within the United States. The study shows that many reading textbooks today frequently lack the adequate coverage for comprehension skills and strategies as suggested by scientific research, and that comprehension skill and strategy instruction is often intermittent and isolated. Thus, our study highlights the fact that CRPs need to be critically examined by educators, particularly in Grades 3, 4, and 5 as students are beginning to focus more on making meaning from the text.

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