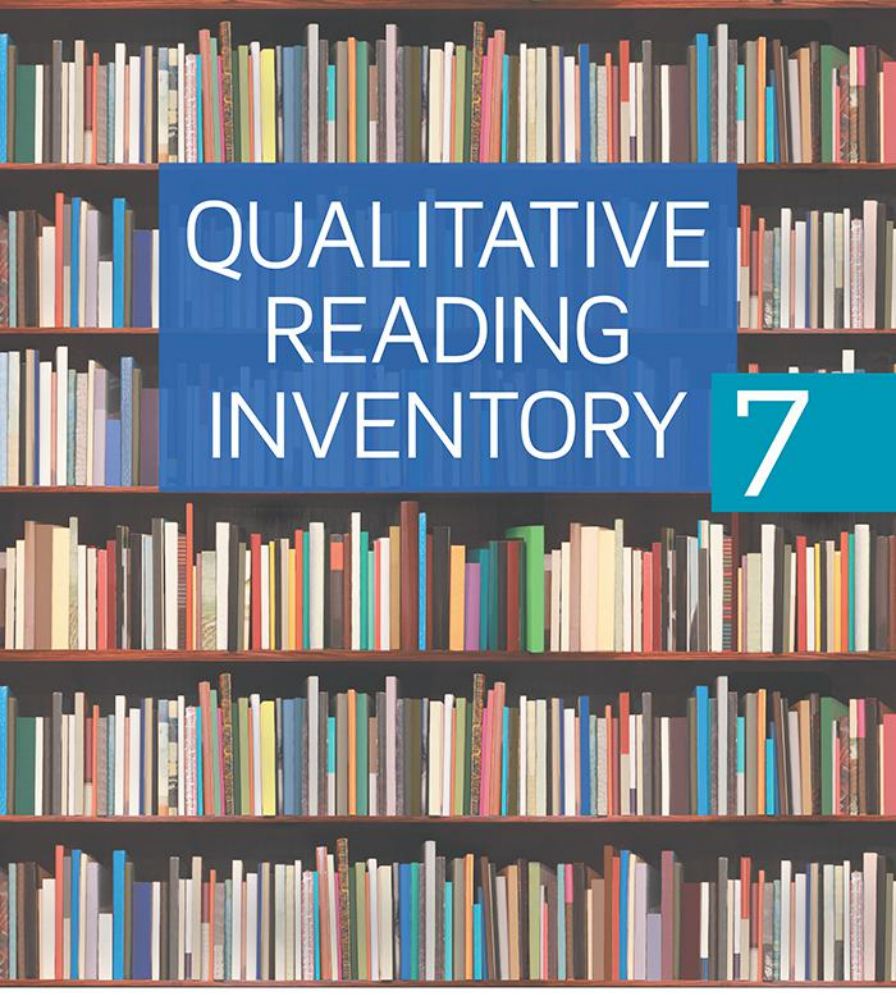

QUALITATIVE READING INVENTORY 7

LAUREN LESLIE
JOANNE SCHUDT CALDWELL

Qualitative Reading Inventory-7

Lauren Leslie
Marquette University

JoAnne Schudt Caldwell
Cardinal Stritch University

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Preface

The seventh edition of *Qualitative Reading Inventory* continues the emphasis on authentic assessment of children's reading abilities, from the earliest emergent readers (pre-primer/primer) to advanced readers (upper middle school/high school). The *QRI-7* contains several unique features. Prior to reading, knowledge of concepts important to an understanding of the passage is assessed. This allows the examiner to label a passage as familiar or unfamiliar to each student. The *QRI-7* measures comprehension in several ways: through an analysis of the student's retelling or summary; through the student's answers to explicit and implicit comprehension questions; and through the use of look-backs. Look-backs separate what readers remembered after reading from what they comprehended during reading. The *QRI-7* provides the use of think-alouds at the sixth-grade level and above to analyze the student's thoughts during reading.

Like other informal reading inventories, *QRI-7* provides graded word lists and passages designed to assess a student's oral reading accuracy, rate of reading, and comprehension of passages read orally and silently. The *QRI-7* contains narrative and expository passages at each level. All are self-contained selections highly representative of the structure and topics of materials found in basal readers and content-area textbooks. For example, passages at the pre-primer through second-grade levels are presented with pictures. Maps and illustrations are part of expository selections at fourth grade through high school levels.

New to this Edition

- **Pearson eText**—One of the most visible changes in *QRI-7*, also one of the most significant, is the expansion of the digital learning and assessment resources embedded in the Pearson eText. The following features are designed to: 1) provide you with authentic practice scoring and analyzing *QRI-7* results, and 2) make it easier to print materials for *QRI-7* administration.
- **Video Examples**—19 all-new video clips have been included in the new edition. Video clips in Sections 3–8 provide a model for how to introduce, administer, and score different parts of *QRI-7*. Many of these videos include a split-screen view so you can observe the examiner's scoring marks in real time. The Appendix includes videos of full sessions with six different students, and allows you to practice scoring word lists and passages. The Appendix also includes links to author-scored versions of these sessions for you to check your work.
- **Application Exercises**—32 application exercises have been added in eight different sections to provide you with additional practice scoring and analyzing *QRI-7* results, and making instructional decisions. Many of these exercises include linked forms and artifacts as the basis for the practice. The questions in these exercises are usually constructed-response. Once learners provide their own answers to

the questions, they receive feedback in the form of model answers written by the authors.

- **Teacher Resources**—The opening outlines of Sections 10 and 12 provide quick links to printable PDF versions of all testing materials in those sections. Additional resources like the Window Card Template (Section 5) and blank Student Summary Form (Section 9) are also linked for easy printing or downloading.

Key Content Changes

- *QRI-7* has been rewritten and reorganized for clarity:
  - Section 1 defines reading and challenges simplistic views of reading comprehension. It also explains informal reading inventory (IRI) assessment and discusses the issue of text complexity. Difficulty ratings of passages included in the *QRI–7* are presented in tabular form.
  - Section 2 explains how the *QRI-7* is different from other published IRIs, and explains the research that guided the development of the *QRI-7*.
  - Section 3 clearly describes the different purposes for administering *QRI-7*, and outlines the basic steps for conducting the assessments. Sections 4–8 provide detailed descriptions of how to administer *QRI-7* for its various purposes.
  - Section 9 now focuses on recording, analyzing, and using the results of *QRI-7*. This includes using the Student Summary Form to select materials and instructional strategies for intervention instruction. We have also included information about how to use *QRI-7* to indicate growth and monitor progress.
  - Section 10 includes the testing materials (word lists and Level-Diagnostic passages) that were previously found in Section 12.
  - An all-new Section 11 provides greater detail on how to administer, score, and analyze results for the Inference-Diagnostic passages. Testing materials for Inference-Diagnostic passages are now included in Section 12.
  - Section 13 describes the extensive piloting of testing materials found in *QRI-7*, and includes reliability and validity data for the overall test.
- Two additional middle school narrative texts (Lois Lowry and Jaime Escalante) have been formatted for use as think-alouds. The *QRI-7* now includes eight think-aloud passages that provide information about students' thinking process while reading.
- The high school passages *Where the Ashes Are* Parts 1 and 2 were removed because copyright permission was not extended. This notification came too late for us to substitute a new passage. Users are asked to contact lauren.leslie@marquette.edu if this presents a burden to them so that we may develop a new high school literature text in the future.
- All sections of the book have been rewritten to make it easier for all teachers to use *QRI-7* to assess students' reading abilities. Additional figures, tables, and boxes have been included in all sections to allow users to more quickly scan for information.

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Section 1

Introduction to Basic Concepts of Reading Assessment

Chapter Outline

WHAT IS READING?

Reading has been defined as the process of constructing or gaining meaning from text by recognizing or decoding words. Therefore, at its most basic level, reading comprehension is the result of word recognition or decoding and the ability to understand language. This model has been termed the "Simple View of Reading" (Gough & Tunmer, 1986), and while research has provided evidence for it (Vellutino et al., 2007; Hoover & Tunmer, 2018), some studies have challenged its simplicity (Catts, 2018; Kendeou & Rapp, 2009; La Russo et al., 2016; Tilstra et al., 2009; Snow, 2018).

The Simple View of Reading

Comprehension = word recognition/decoding × ability to understand language

In many research studies, especially those using an elementary grade population, a large part of students' variability in reading comprehension can be explained by word recognition or decoding and measures of oral language, often measured as listening comprehension. However, the importance of these two factors to comprehension varies with the stage of reading development. In beginning readers, word recognition plays a larger part in explaining reading comprehension because word learning is still developing, and materials written for beginning readers are conceptually simple. That is, the materials for beginning readers contain frequently used words, short sentences, and content that is familiar to them.

As students get older, their word recognition and decoding abilities improve to a point where there is little variance among students, and language ability plays a larger role in explaining comprehension. Older students' word recognition

and decoding abilities become quite similar, so the differences in comprehension must be due to another factor, which, in the Simple View, is understanding language. In the past decade, research has examined whether the Simple View is sufficient to explain reading comprehension, or whether other abilities are involved. Tilstra and colleagues (2009) found that two factors (in addition to decoding and listening comprehension) predicted reading comprehension for students in grades 4, 7, and 9:

- verbal proficiency (measured by an expressive measure of vocabulary knowledge), and
- reading fluency (i.e., the number of words read correctly in one minute).

These four measures—decoding, listenting comprehension, verbal proficiency, and reading fluency—predicted silent reading comprehension at all grade levels and explained decreasing amounts of variability as students' grade level increased. Specifically, 61% of the variance in reading comprehension was explained in fourth grade, 48% in seventh grade, and 38% in ninth grade (Tilstra et al., 2009). In other words, measuring these four factors was less effective at predicting comprehension in the upper grades compared to fourth grade. As expected, decoding accounted for more variance in reading comprehension for fourth-graders than for the older groups. Verbal proficiency, on the other hand, contributed an additional 12% of the variance in comprehension for ninth-graders, but only 5% for fourth-graders and 8% for seventh-graders. These results suggest that the Simple View of Reading is a powerful but incomplete model of reading, especially for students in middle school and high school (Snow, 2018).

A recent article acknowledges that although the Simple View of Reading (SVR) has provided a useful framework for understanding basic factors influencing reading comprehension, the model has led us to assume that comprehension (listening or reading) is simpler than it is (Catts, 2018). Although the complexity of reading comprehension has been acknowledged (Gough, Hoover, & Peterson,1996; Willingham, 2006), complex measures of it are few and far between. A review of the SVR model in the September 2018 issue of *Remedial and Special Education* concludes that although the SVR model has been useful in promoting research into factors that underly reading comprehension, many factors such as content knowledge, text structure, and demanding comprehension tasks have not been considered by SVR. The model works well for students in the primary grades but is lacking in the explanation of higher-order comprehension in the upper grades (Snow, 2018; Catts, 2018).

A recent study using a more complex measure of comprehension illustrates how factors beyond word recognition and language comprehension contribute to reading comprehension (La Russo et al., 2016). Students in grades 4 through 7 were given tasks that measured academic language, perspective taking, complex reasoning, and deep reading comprehension. Students were asked to make real-world decisions and were given a variety of resources (e.g., blog, website, news article, email, textbook excerpt) to use to decide, for example, whether a wind farm is good for their community. The resources were thematic, sequenced with regard to difficulty, and they allowed the students to "apply what they read to different contexts, situations and perspectives" (La Russo et al., 2016, p. 209). The final model, which included all three predictors of reading comprehension (perspective taking, academic language, and complex reasoning) and their covariates, explained 52% of the total variance in deep comprehension. This initial study provides a promising new method for examining the deep comprehension demanded by state and local agencies. But how does the model specifically apply to reading assessment and instruction?

IMPLICATIONS FOR ASSESSMENT

We accept a more complex view of reading comprehension that includes not only word recognition and language comprehension, but also fluency, student content knowledge, student knowledge of the structures of narrative and expository text, vocabulary, and complex reasoning. Therefore, we believe reading assessment should measure:

- Word recognition/identification
- Fluency
- Vocabulary and/or content knowledge
- Text structure knowledge
- Literal comprehension
- Inferential comprehension of various types

Measuring these factors allows for diagnoses of several types of reading difficulties. At the simplest level, oral reading of a grade-level text can determine whether the student has sufficient word recognition abilities to successfully comprehend that text. If the student cannot read the text with at least 90% accuracy, it is likely that problems with word recognition will contribute to a low comprehension score. On the other hand, if a student can read the text with 95% accuracy, but his or her oral language understanding and reading comprehension are below average, we can infer that the student's reading comprehension difficulty is caused, at least in part, by a lack of language understanding. The *QRI-II* (Leslie & Caldwell, 1995) was used to examine the diagnostic profiles of fourth-grade students who failed a state proficiency exam (Valencia & Buly, 2004). They detected six clusters of students that varied in three abilities—word recognition, fluency, and comprehension—with only 9% being low in all areas. This study documented the usefulness of the *QRI-II* to diagnose reading difficulties. Given the strong similarity between the *QRI-II* and the present edition, we can assume that the present edition will be as useful.

In addition to word recognition and fluency, the *QRI* measures comprehension in both narrative and expository text; this is because research demonstrates greater difficulties in comprehending expository text. The passages in the *QRI* can also be used to measure listening comprehension by reading passages to the student.

An example will be illustrative. José, a third-grade student whose native language was Spanish, was referred by his classroom teacher to a reading specialist for assessment. The teacher was concerned that José did not understand the stories being read in his reading group. The assessment showed that his word recognition ability was within the average range for a third-grader, and he read with appropriate phrasing and expression. However, his reading comprehension was below grade level. To determine whether José's comprehension problem was at least partially an oral language problem, the reading specialist read a grade-level text to him. She found that he still did not understand it. She concluded that José needed instruction in understanding the English language. The *QRI-7* was designed to assess students with a range of abilities, José's being only one type, and six profiles were identified by Valencia and Buly (2004). The addition of more complex passages at Grades 4-high school requiring more in depth understanding, and summarization of text, expanded the use of the *QRI-6* beyond previous editions. The *QRI* is one type of informal reading inventory (IRI) assessment, which has a long history of use in the classroom and clinic.

INTRODUCTION TO INFORMAL READING INVENTORIES

An IRI is an individually administered reading assessment composed of graded word lists and passages of increasing difficulty.

IRIs vary in the levels of materials provided for the student to read. Some include short, simple selections (less than 50 words) for beginning readers. Some include

pictures. The purpose of these materials is to identify words that the child can read and those he or she cannot read without the aid of pictures. The materials also provide an opportunity to observe strategies the child uses when faced with unknown words. IRIs contain word lists and passages that increase in difficulty paralleling the grade levels they represent. As the levels of passages increase, materials become more complex, sentences get longer and more complex, words are less frequent, and ideas are more abstract. All IRIs include fiction and nonfiction materials for use with students reading from kindergarten through eighth grade. Some inventories stop at eighth grade (e.g., Morris, 2014), but many others continue through high school (e.g., Roe & Burns, 2010; Johns & Johns, 2016; Woods & Moe, 2014; *Qualitative Reading Inventory-6*).

Using the *QRI-7* graded materials, teachers can identify the level of text that students can read with:

- 98%+ oral reading accuracy and a minimum of 90% comprehension. This is called the student's independent level because students can read this level of material without assistance.
- 90–97% oral reading accuracy and a minimum of 70% comprehension. This is called the student's instructional level. Students should be instructed in using material at this level as there are unfamiliar words and ideas to learn.
- Less than 90% oral reading accuracy and less than 70% comprehension. This is called the student's frustration level. It is believed that students will become frustrated when reading material at this level.

These materials can also be used to analyze a student's strengths and weaknesses in reading, as illustrated in the example of José.

MEASURES OF DIFFICULTY

Fiction and nonfiction materials on IRIs vary in difficulty from the simplest to very complex. Almost 100 years of research has examined what makes text difficult to read. A review of that literature is beyond the scope of this book; however, we will provide a summary of relevant literature. A common method of describing text difficulty is the use of readability formulas. Readability formulas are based on two components. One is word difficulty, estimated by the frequency of the word or its length. For example, "matriarch" is much less frequent in our language than "mother," so a text containing "matriarch" would likely have a higher readability level. Similarly, "received" is a longer word than "got," and its inclusion in a text would probably increase the readability estimate. Another readability component is sentence complexity, often measured by sentence length. Thus, "Because she needed sugar, Mary jumped in the car and quickly drove to the store" would increase a text readability estimate more than "Mary needed sugar. She jumped in the car. She quickly drove to the store." However, it is worth noting that attempts to lower readability by deleting signal words and transitional phrases such as *because, therefore*, and *in order to* may inadvertently make the text more difficult because removing such connectives obscures syntactic relationships (Hiebert & Mesmer, 2013) and increases the inference demand on the reader.

Readability formulas provide only a general and very rough estimate of text difficulty level because many other components contribute to the complexity of a text. Readability scores overlook "the qualitative and reader-specific factors that should be considered" (Fisher, Frey, & Lapp, 2012, p. 31). Is the text coherent and well written? Does it include supportive pictures and/or diagrams? Do headings and central idea statements accurately indicate content? Is it on a familiar topic? Is the topic interesting to the reader? Is the structure of the text clearly signaled? To what extent does the language of the text parallel spoken language, or does the language represent a stylized and formal form of writing?

A popular measure, the Lexile scale provides two readability levels, a text level and a reader level. Like other readability formulas, the text level is based on word

familiarity and sentence length. Reader levels are based on administration of short passages with one question that determine a reader's score in Lexile units. The reader is then expected to comprehend approximately 75% of text with the same Lexile level (MetaMetrics, 2013).

Like other readability formulas, the Lexile scale does not address the role of predictable text, pictures, and other graphic features, which makes it an inappropriate measure for pre-primer and primer text. Fountas and Pinnell (2006) have grouped texts according to characteristics that move beyond traditional readability components. These include length, print size, layout, difficulty of vocabulary and concepts, language structure, genre, text structure, predictable language, and support offered by illustrations. They used these characteristics to describe 16 guided reading levels crossing kindergarten through third grade: nine levels for kindergarten and first-grade text, four levels for grade 2, and three levels for grade 3. Although the Fountas and Pinnell system has achieved wide recognition and usage among teachers, it provides only a moderate amount of support for word recognition instruction and almost no support for decoding instruction in the use of onsets and rimes. In addition, books leveled for use in Reading Recovery do not consistently increase in word-level demands as their levels increase (Cunningham et al., 2005).

Hiebert (2013) suggests that determination of text complexity should move beyond word frequency and sentence length to consider four additional components: levels of meaning, knowledge demands, language conventions/clarity, and structure. These can make a text manageable or difficult despite its readability score. Levels of meaning in a text can range from a focus on relatively straightforward and concrete topics to more complex issues. Knowledge demands refer to the inclusion or lack of concepts familiar to the reader. For example, science and social studies texts often focus on unfamiliar content, such as the continental drift theory and post–World War I nativism. Language conventions/clarity refers to the style and structure of the text, as well as the inclusion and/or absence of definitions or explanations for unfamiliar words and concepts. Content area texts often "receive inflated readability scores since key concepts that are rare (e.g., *photosynthesis, inflation*) are often repeated which increases vocabulary load, even though repetition of content words can support student learning" (Hiebert & Mesmer, 2013, p. 46). Structure focuses on the existence and clarity of topic headings and central idea/theme statements, as well as the overall structure of the text and how it is signaled by the author. A summary of the qualitative components of text complexity and its relationship to the *QRI-7* is presented below.

Relationship between Hiebert's Qualitative Components of Text Complexity and the *QRI-7*

Component	Definition	*QRI-7* component
Levels of Meaning	Concrete to abstract	Increasingly more complex topics and concepts are included as grade level increases
Knowledge Demands	Familiar vs. unfamiliar	Provides prereading concept questions to measure subject familiarity
Language Conventions & Clarity	Definitions of unknown words	Unfamiliar words are either defined or clues to meaning are given
Structure	Signals of text structure are provided	Main ideas of expository text are provided; main ideas are stated explicitly, and narratives explicitly follow narrative structure

The nature of the above components may allow a student to read text at a higher readability level than might be anticipated. The opposite is also true. Despite a readability level appropriate for a specific grade, a student may find the text impossibly difficult. We have chosen *QRI* texts with appropriate reading levels according to readability formulas. However, a student's performance should always be examined in relation to components that are not addressed by such formulas. If, for example, a sixth-grader meets frustration in the grade-level text, the student's familiarity with the topic should be examined by using his or her responses to the concept questions included in the *QRI-7*. The teacher should

also consider the conceptual difficulty of the passages. A description may be easier to comprehend than an explanation of a process. For example, an explanation of temperature and humidity at the sixth-grade level probably represents more difficult concepts than an account of pyramid building at the same level. The structure of the passage may also play a part. A narrative structure is generally more familiar than the structure of expository text, which can employ several different structures within the same selection.

To assign levels to passages for the editions of the *QRI*, we have subjected each passage to a variety of readability formulas at every level and found wide fluctuations in the grade levels assigned by different formulas. We chose the level agreed on by at least two out of three formulas in the lower grades. For grades 5 through high school, we averaged the scores of three formulas to obtain a more reliable estimate, and then tested the appropriateness of the level through piloting. Because of the popularity of the Lexile scale, we chose the Inference-Diagnostic Passages with Lexile levels appropriate to their grade level and also assessed readability through a consensus among seven formula estimates (http://www.readabilityformulas.com/free-readability-formula-tests.php).

Table 1.1, Table 1.2, and Table 1.3 present the quantitative measures of difficulty of the Level Diagnostic Passages, and Table 1.4 presents the mean Lexile values on the Inference Diagnostic Passages.

A comparison of the Lexile levels of the Level Diagnostic and the Inference Diagnostic materials showed no significant differences at grades 4 through upper middle school, but at the high school level the Inference Diagnostic materials had higher Lexiles than the Level Diagnostic materials. Details of these analyses are discussed in Section 13.

Table 1.1 Leveling *QRI-7* Text: Comparing Two Raters' Use of Fountas and Pinnell (2006), Harris-Jacobson Readability Levels, and Gunning Classifications on Pre-Primer through Grade 1 Passages

	RR Level Rater		HJ Readability	Gunning
Pre-Primer: C-D-E	**1**	**2**		
Narrative: "I Can" (P)[a]	A	A	1.0	Easy Sight
Narrative: "I See"[b] (P)	B	B	1.4	Easy Sight
Narrative: "Just Like Mom" (P)	C	C	1.0	Easy Sight
Narrative: "Spring and Fall"	E	E	1.3	Easy Sight
Narrative: "Lost and Found"	F	F	1.0	Easy Sight
Expository: "People at Work" (P)	E	E	1.1	Easy Sight
Primer: F and G				
Narrative: "A Night in the City" (P)	G	G	1.5	1.65
Narrative: "Fox and Mouse" (P)	F	F	1.4	1.40
Narrative: "The Pig Who Learned to Read" (P)	G	G	1.7	1.50
Expository: "Who Lives Near Lakes?" (P)	F	G	1.3	1.3
Expository: "Living and Not Living"	G	F	1.1	1.2
First: H and I				
Narrative: "The Surprise" (P)	I	I	1.8	1.75
Narrative: "Marva Finds a Friend" (P)	H	I	1.8	2.30*
Narrative: "The Bear and the Rabbit" (P)	I	H	1.7	1.8
Expository: "Air"	I	H	1.5	1.5
Expository: "The Brain and the Five Senses" (P)	H	H	1.5	1.6

Note: Two people unknown to each other independently rated the pre-primer, primer, and first-grade materials using the Fountas and Pinnell leveling system, and the ratings were identical or within one level.

*Gunning has a more restrictive word list than does the Harris-Jacobson.

[a](P) indicates a pictured passage.

[b]The rhyming pattern of this story makes it easier than the readability estimate indicates.

Table 1.2 Difficulty Levels of *QRI-7* Text: Comparing Fountas and Pinnell Levels, Harris-Jacobson Readability Levels, and Lexiles for Grades 2–4

	Level	HJ	Lexile (without Graphics)
Second: J–M			
Narrative: "The Lucky Cricket" (P)	L	2.1	510
Narrative: "Father's New Game" (P)	M	2.7	480
Narrative: "The Family's First Trip"	M	2.3	560
Expository: "Whales and Fish"	L	2.9	590
Expository: "Seasons"	M	2.4	480
Third: N–P			
Narrative: "A Special Birthday for Rosa"	O	3.2	750
Narrative: "The Friend"	P	3.9	710
Narrative: "A New Friend from Europe"	Q	3.8	770
Expository: "Cats: Lions and Tigers in Your House"	N	2.7	750
Expository: "Where Do People Live?"	O	2.6	500
Expository: "Wool: From Sheep to You"	P	4.6	700
Fourth: Q-T			
Narrative: "Amelia Earhart"	R	3.3	500
Narrative: "Tomie dePaola"	T	4.4	910
Expository: "Early Railroads"	Q	3.8	810
Expository: "Plant Structures for Survival" (G)	T	4.6	930

Note: (P) indicates a pictured passage, and (G) indicates a passage with a graphic.

The Lexile system removes all graphics, headings, bolded words, and so on when estimating a level. Therefore, to the extent that the graphics enhance comprehension, the Lexile may overestimate the difficulty of a selection. In addition, readability formulae and Lexiles do not consider the effects of prior knowledge on comprehension.

SEM of Lexiles is estimated to be 64 divided by the square root of the number of slices of 125 words (Stenner et al., 2006). Therefore, passages around 250 words would be composed of two slices of 125 words each, and the square root of 2 = 1.41, so 64/1.41 = 45.39. Most of the second-grade through fourth-grade passages are around 250 words. Passages of 350 words would have a SEM of 38.32.

Table 1.3 Difficulty Levels of *QRI-7* Text: Mean of Three Readability Formula Estimates and Lexiles Grade 5 through HS

	Average of Three*	Lexile (without Graphics)
Fifth		
Narrative: "Margaret Mead"	5.0	660
Narrative: "Patricia McKissack"	7.5	970
Expository: "Farming on the Great Plains"	5.4	810
Expository: "How Does Your Body Take in Oxygen?" (G)	5.6	900
Sixth		
Literature: "Abraham Lincoln"	5.7	760
Literature: "The Early Life of Lois Lowry"	6.6	980
Social Studies: "The Lifeline of the Nile" (G)	6.9	850
Social Studies: "Building Pyramids" (G)	6.6	850
Science: "Temperature and Humidity"	7.5	1,030
Science: "Clouds and Precipitation" (G)	6.2	1,000
Upper Middle School		
Literature: "Jaime Escalanté: Teacher Extraordinaire"	7.8	950

(*continued*)

Table 1.3 (*Continued*)

	Average of Three*	Lexile (without Graphics)
Social Studies: "Immigration—Part 1"	9.5	1,000
Social Studies: "Immigration—Part 2"	7.8	870
Science: "Life Cycles of Stars—Part 1"	7.5	820
Science: "Life Cycles of Stars—Part 2"	7.5	840
High School	**Average of 7****	
"World War I—Part 1"	11.2	1,130
"World War I—Part 2"	9.0	1,020
"Characteristics of Viruses—Part 1"	9.0	970
"Characteristics of Viruses—Part 2"	9.0	950

*Because of the variability among the New Dale-Chall readability formula, the Fry Readability graph, and Flesch Grade Level estimates, we averaged the three to obtain a more reliable estimate.

** The high school material was evaluated by readabilityformulas.com, which calculates a consensus estimate based on seven formulas.

Note: The Lexile system removes all graphics, headings, bolded words, and so on when estimating a level. Therefore, to the extent that the graphics enhance comprehension, the Lexile may overestimate the difficulty of a selection. In addition, neither Lexiles nor readability formulae consider the effects of prior knowledge on comprehension.

SEM of Lexiles is estimated to be 64 divided by the square root of the number of slices of 125 words (Stenner et al., 2006). Therefore, passages around 375 words would be composed of three slices of 125 words each, and the square root of 3 = 1.73, so 64/1.73 = 46.99. Passages at the fifth-grade and sixth-grade level range in length from 254 to 591 words. Passages at the upper middle school level range from 382 to 786 words. Passages at the high school level range from 354 to 1,224 words. SEM of Lexiles of passages around 500 words is 32L (Stenner et al., 2006).

Table 1.4 Difficulty Estimates of the Inference Diagnostic Passages Using the Mean of Seven Readability Formula Estimates and Lexiles in Grade 4 through HS

	Average of Seven	Lexile (without Graphics)
Fourth		
"Cynthia Rylant—The Development of an Author" (Biography)	6th	810
"Linking East and West" (Social Studies)	8th	970
"How Do Organisms Compete for Resources?" (Science)	8th	790
Fifth		
"Jane Goodall, Goddess of the Apes" (Biography)	7th	850
"The Rise of Cattle Drives" (Social Studies)	7th	970
"The Body's Transportation System" (Science)	6th	850
Sixth		
"The Legacy of Jim Thorpe" (Biography)	7th	930
"From Dynasty to Dynasty" (Social Studies)	7th	970
"What Causes Weather?" (Science)	8th	880
Middle School		
"Malcolm X: The Development of a Separatist" (Biography)	9th	1080
"A Wave of Nativism" (Social Studies)	9th	920
"What Is a Comet?" (Science)	7th	890
High School		
"Georgia O'Keeffe" (Biography)	10th	1110
"America Adjusts to Peace" (Social Studies)	10th	1130
"The Kingdoms of Life" (Science)	12th	1070

Pearson Education; http://www.readabilityformulas.com/free-readability-formula-tests.php. The seven formulas used to determine the average were Flesch Reading Ease, Flesh-Kincaid, Fog, Smog, Coleman-Liau, Automated Reading Index, and Linsear Write Formula.

Section 2

Research Guiding the Development of the *Qualitative Reading Inventory*

Chapter Outline

HOW THE *QRI* IS DIFFERENT FROM OTHER IRIs

The *QRI* (1990) was the first informal reading inventory (IRI) to explain the research base for its development. Research indicated that reading comprehension was affected by five factors:

1. Word identification/recognition
2. Fluency
3. Content knowledge of the reader that related to text content
4. The genre and structure of the text
5. The method of assessment used to measure reading comprehension

We believe that assessment should mirror research, so based on the areas listed above, the *QRI* includes:

- Word lists and passages of varying difficulty
- Measures of fluency and prosody
- Prior knowledge assessment to be administered before the student reads the passage
- Narrative and expository passages from pre-primer through high school
- Three measures of comprehension: retelling, questions, and think-alouds

In addition, we provided data analysis from students who were given the *QRI* (see Section 13). These data documented the increasing difficulty of the word lists and passages, interscorer reliability, item reliability, and many types of validity. These analyses were far more extensive than previous informal reading inventories had provided. We wanted the *QRI* to be research-based to the extent possible with an informal reading inventory.

FACTORS RELATED TO READING COMPREHENSION

Word Recognition and Identification

As explained in Section 1, reading comprehension is the generation of meaning based on the recognition of words in a text. Put another way, a beginning reader looks at print and attempts to make sense of it. As the Simple View of Reading describes (see Section 1), reading comprehension is equal to the product of word recognition and oral language comprehension, or RC = WR × LC. It is a multiplicative relationship, not an additive one. Therefore, RC = 0 if the student cannot recognize or decode any words, or if the student does not understand the language (Hoover, & Tunmer, 2018).

Students' ability to recognize words is based, in part, on the word's frequency of occurrence in the written language being read (Seidenberg & McClelland, 1989). The word *the* has the highest standard frequency index (SFI) in English (Zeno et al., 1995), but probably is not the first word children learn to read. The first word read is likely to be idiosyncratic based on the child's environment. Nouns are typically learned first because they are labels for things, such as the child's name, or a label on a favorite toy.

Students' ability to decode words, often referred to as *sounding out*, is based (in part) on the regularity of letter–sound relationships known to the child and their frequency in the words the child attempts to read. For example, if a child knows the letter–sound relationships for all consonants, and that the vowel *a* can sound like ă, then the child may be able to decode the words *can, cat, mat, fan, cap,* etc. We say *may be able to decode* because many children who know letter–sound relationships do not necessarily know how to use this knowledge to decode a word. This is a common result of teaching letter–sound relationships without teaching how they are used to read words.

Accuracy of reading words is also affected by the regularity of vowel pronunciation in words. Research has found that the vowel's pronunciation is more regular if the final consonant in the syllable is considered (Kessler & Treiman, 2001). In a word such as *flag,* the first two letters are the onset, and the vowel and final consonant (*-ag*) are referred to as the *rime*, or spelling pattern. In addition to word frequency, the frequency of the rime is a powerful predictor of children's word recognition and decoding (Leslie & Calhoun, 1995). Practically, this means that words with high-frequency rimes will be recognized more often than words with low-frequency rimes, even if the words have equal standard frequency indexes. For example, *vain* will be read correctly more frequently than *foul.* Although they have similar SFIs (48.8 vs. 47.8, respectively), the spelling pattern *-ain* is more common than *-oul.* The process of using a known word to read an unknown word with the same spelling pattern is called *reading by analogy* (Goswami, 1986).

Implications for the Development of the *QRI*. The *QRI* word lists were developed by choosing the most common words from our passages, that is, words with the highest SFI (Zeno et al., 1995). For example, the first-grade word list includes "thought" and "knew," which are in the stories "The Bear and the Rabbit" and "Marva Finds a Friend," respectively. These words are found in many stories that children read. In contrast, we did not include words such as "softly" and "newspaper," because although they are also in these stories, they are less likely to be found in children's reading materials.

We also separated the most frequent words included on the pre-primer passages. The most common words became the pre-primer 1 (PP1) list. The mean SFI of the words on the PP1 list is 77.91. It includes many of the most frequent words in written English (e.g., "the," "a," "in," "of," "to"). The pre-primer 2/3 list also includes words from the pre-primer stories (e.g., "make," "my," "some," "people"), but these words are

Table 2.1 Mean Standard Frequency Index for *QRI-7* Word Lists

Pre-Primer 1	Pre-Primer 2/3	Primer	First	Second	Third	Fourth	Fifth	Sixth	MS	HS
77.91	70.25	67.95	64.93	59.4	56.5	51.95	49.38	45.90	43.50	37.76

Note: The SFI for all words was determined based on Zeno et al., 1995.

less frequent than those on the PP1 list. This list has a mean SFI of 70.25. The average SFI of each word list is presented in Table 2.1.

Reading by analogy is using a known word to read an unknown one. To measure students' ability to read by analogy, the *QRI-7* includes a list of low-frequency words that contain 18 frequent spelling patterns (Beck, 2006; Fry, 1998; Gaskins, Downer, & the Teachers of the Benchmark School, 1997). The high frequency words are on the word lists and occur in passages at the pre-primer through first-grade levels. A comparison between the student's ability to read the high-frequency words with the spelling pattern (e.g., *can*) and his or her ability to read a low-frequency word with the same spelling pattern (e.g., *pan*) provides evidence of the student's ability to use a known spelling pattern to read an unknown word—that is, reading by analogy.

Analyses were conducted using our data on a student's ability to read a low-frequency word given that the student correctly read a high-frequency word with the same spelling pattern. Each analysis was conducted within a range of student reading instructional levels. For example, the first analysis used data from first-grade students with instructional reading levels of less than or equal to pre-primer. Their performance on the PP1 and PP2/3 lists showed that the easiest patterns (those on which students were most likely to read the low-frequency word correctly) were "-ook," "-eed," "-an," and "-in," which are high-frequency rimes. The most difficult patterns on the pre-primer lists were all words with the consonant vowel/consonant/e pattern (CVCE). These include "-ame," "-ace," "-ike," and "-ake." The same pattern of difficulty was found for second-graders with the same reading levels. We infer that the students had not yet learned to generalize the CVCE spelling pattern. Details on administering and scoring the word lists can be found in Section 5.

Pearson eText Application Exercise 2.1: Understanding Word Recognition and Identification

Oral Reading

The growth in a student's word recognition ability can also be measured by their accuracy in oral reading of passages of increasing difficulty. Oral reading accuracy can be measured in two ways: by Total Accuracy, which counts all errors that are not self-corrected by the reader, and by Total Acceptability, which counts only errors that change meaning.

Section 1 defines three levels of reading: independent, instructional, and frustration. We use Total Accuracy to determine these levels following the recommendations of Betts (1946), Harris and Sipay (1990), and McKenna and Picard (2006/2007). We recommend counting all oral reading errors during testing because counting all uncorrected miscues takes less time than deciding whether a miscue did or did not substantively change meaning. In addition, counting all uncorrected miscues represents a more reliable practice because examiners vary in their interpretation of what constitutes a meaning-change miscue. For example, while many individuals might not consider the substitution of "a" for "the" as a miscue that changes meaning, others might disagree and distinguish between the indefinite ("a") and definite ("the") articles. In our classes, we have noticed similar disagreements regarding whether meaning is changed by miscues such as the following: "song" for "singing"; "find" for "get"; "special" for "precious"; and "shiny" for "waxy." In Section 6, we offer guidelines for determining whether or not a miscue changes meaning.

Miscue Analysis. Examining errors for whether they change meaning is part of what is termed *miscue analysis*, which examines the relationship between a student's error and the text (Goodman, 1965, 1967). Goodman referred to word pronunciation errors as miscues influenced by three possible cue systems:

- **Graphophonic (or graphic) cue system**: This refers to relationships between graphemes (letter and letter combinations) and phonemes (units of sound). *Example:* If a reader pronounces "jump" as "junk," one can infer that the reader is utilizing sound cues from the initial consonant and vowel, but is not attending to semantic cues (see below) that signal "junk" did not make sense in the context of the sentence.
- **Syntactic cue system**: This refers to the position of the word within the sentence. If the reader reads "Mary sat on her chair" as "Mary sat on a chair," one can infer that sentence syntax influenced the substitution of an indefinite article (*a*) for a pronoun (*her*), and less attention was paid to graphophonic cues.
- **Semantic cues**: These are meaning cues obtained from the content of what is being read. For example, if a reader reads the sentence "I received six presents for my birthday" as "I got six presents for my birthday," one can infer that the reader is using semantic information in saying "got" for "received," while paying less attention to graphophonic cues (*received* and *got* do not look or sound alike).

Goodman's theory was that a reader's use of context, as exemplified by using semantic and syntactic cue systems, was an important and strong influence in word pronunciation (Goodman, 1965, 1967). He believed that as readers develop word recognition skill and speed, they use less graphophonic cues. Therefore, miscues that indicate context usage are strengths because they indicate developing expertise on the part of the reader and a focus on meaning. On the other hand, Goodman believed that overreliance on letter–sound cues suggested a poor reader.

Research has challenged Goodman's theory of the dominant role of context in efficient word recognition (Tunmer & Nicholson, 2011; Stahl, 2006; Stahl & Hiebert, 2005; Stanovich, 2004). Stanovich argues that word-identification skill does not depend on contextual prediction but rather "the level of word recognition skill determines the extent to which contextual information will be relied on" (Stanovich, 2004, p. 466). To put it another way, as readers develop skill in using the graphophonic cue system, they use context less and less to identify words.

Stanovich's predictions were verified in a year-long study of Reading Recovery® students. The students began the intervention heavily dependent on context for determining unknown words. However, those who finished first-grade reading grade level materials successfully, increased their use of graphic cues. By the end of the intervention year they were using a combination of graphic and contextual cues. These higher-achieving students figured out a word using letter-sounds and word parts, and then used context to determine whether their reading made sense. If it did not, they attempted to self-correct, and were often successful in doing so (McGee et al., 2015). These results support the notion that context becomes a factor in the comprehension process as opposed to the word-identification process (Tunmer & Nicholson, 2011; Stanovich, 1993/1994). Miscue analysis provides the examiner/teacher with a window into the child's understanding of reading, especially at points of difficulty (McGee et al., 2015). It allows teachers to provide effective scaffolding to beginning readers (Rodgers et al., 2016).

Miscue analysis, as traditionally used, describes miscues made during oral reading of passages. However, it may not provide information on a reader's specific needs in decoding because such needs may be "masked by context" (McKenna & Picard, 2006/2007, p. 379). A reader aided by context may be able to read a word correctly in a story but be unable to identify it on a word list. This suggests that word identification

must also be evaluated apart from context, as in a word list format. The *QRI-7* provides two ways of analyzing the cue systems used by a reader. All words that appear on the *QRI* word lists also appear in stories at the same level of difficulty or one level lower. This allows the teacher to examine the student's dependence on context by noting words that were read incorrectly on a list but read correctly in the text.

Studies have also examined whether students at different ages and ability levels comprehend better in oral than in silent reading. One study found no differences in comprehension between the modes, but the small numbers of students at each age level prevented the researchers from analyzing a developmental trend (McCallum et al., 2004). A second study examined the developmental patterns of comprehension by having all students read texts orally and silently. This allowed for comparison within individual students, and a developmental pattern was noted. Oral reading was associated with higher comprehension in grades 1–5. No differences in comprehension between modes were seen in sixth grade. In seventh grade, silent reading was associated with higher comprehension than oral reading (Prior et al., 2011). In addition, there was a noticeable drop in comprehension in both modes at fourth grade, likely because of the shift in genre at fourth grade: Student participants read narratives in grades 1–3 but shifted to reading all nonfiction texts in grades 4–7.

A recent study examined the comprehension of middle school students who orally and silently read narrative and expository texts (Dickens & Meisinger, 2017). Sixth- and seventh-grade students read passages from the *QRI-5* and answered comprehension questions. No effect of modality was found at either grade level, although the differences at sixth grade approached significance in favor of oral reading. At both grade levels, comprehension of narrative text was higher than expository text.

Pearson eText Application Exercise 2.2: Understanding Oral Reading and Miscue Analysis

Implications for Development of *QRI-7*. Users of *QRI-7* can examine word recognition from lists or in oral reading of passages. Data illustrating the increasing difficulty of word lists and stories can be found in Section 13. Users can also count all miscues as well as those that changed meaning. Our pilot data suggested that the best predictor of instructional-level comprehension is 95% for Total Acceptability, the measure of accuracy attained when only uncorrected meaning-change miscues are counted. We encourage qualitative miscue analysis to examine how much attention the reader is paying to the graphic elements of the text and to components of meaning. We also suggest, based on pilot data, that reader self-corrections may indicate whether the reader is paying attention to decoding or to passage meaning. We examined the self-correction strategies of children reading pre-primer through third-grade passages. We distinguished between miscues that changed meaning and were corrected and miscues that did not change meaning but were also corrected. Children with reading levels of pre-primer through grade 2 showed no differences between the correction rates. Children were as likely to correct a miscue that distorted meaning as they were to correct one that did not. However, at the grade 3 level, there was a change; children tended to correct significantly more meaning-change miscues than those that did not change meaning. This suggests that at instructional levels of pre-primer through grade 2, children are still focused on pronouncing words and, as a result, little distinction is made between meaning-change or non-meaning-change correction attempts. However, at the third-grade instructional level, developing word-pronunciation skill and increased fluency allows them to focus more on overall passage meaning. The result is that they correct more meaning-change miscues. Our miscue analysis worksheet in Section 6 reflects this alternative interpretation.

Fluency, Automaticity, and Prosody

Other researchers have examined the relationship between oral reading fluency and reading comprehension. This area of research has increased since the development of curriculum-based measures (CBM) of fluency (Fuchs et al., 2001; Good & Kaminski, 2002). The research surrounding the development of CBM is beyond the scope of this book; however, we will briefly review the areas that provided the groundwork upon which the measures of fluency on the *QRI-7* have been developed. First, what is fluency and what is the relationship of fluency to comprehension? Is fluency more important at some developmental levels than at others? Does the ability of a student to read quickly and accurately lead directly to comprehension, or do fluency and comprehension facilitate each other?

The simplest definition of fluency is the number of words read correctly within one minute. This is termed oral reading fluency (ORF), and it measures the accuracy and speed with which a student can read a piece of text. Because early reading development involves learning to read words automatically, ORF should be assessed in students who are beginning readers as well as pre-readers at risk of learning to read. In fact, growth in ORF during first grade was the best predictor of reading comprehension on the SAT-10 achievement test in first and third grades (Kim et al., 2010). Growth in ORF is particularly important if teachers use it to measure improvement from an intervention plan.

Accuracy and speed are not the only aspects of oral reading that are important to the development of fluent reading. Theoretical analyses of the construct of fluency (Kuhn, Schwanenflugel, & Meisinger, 2010) suggest that fluency should include prosody, which is reading "with appropriate expression or intonation coupled with phrasing that allows for the maintenance of meaning" (Kuhn, Schwanenflugel, & Meisinger, 2010, p. 233). There are several features of prosody:

- pitch (the regulation of the rising or falling of pitch),
- duration (the duration of vowel pronunciation) representing the familiar stress patterns of the language and
- pausing (the frequency and location within or between sentences).

As children become more fluent readers, they make shorter and less variable intersentential and intra-sentential pauses, and larger pitch changes. They begin to sound more like the average adult. Changes in prosody are most obvious between first and second grade and predict later fluency (Miller & Schwanenflugel, 2008). This supports the previous finding that ORF growth in first grade predicts later reading achievement. Miller and Schwanenflugel (2008) identified two factors that predicted fluency and comprehension at the end of third grade: pausal intrusions at the end of first grade and the extent to which reading approximates an adult intonation contour at the end of second grade.

The validity of the measurement of prosody is affected by the difficulty of the text compared to the skills of the reader. Measures of prosody from a text that is easy for the reader are less likely to be predictive of comprehension than measures from a more difficult text (Kuhn et al., 2010).

Implications for the Development of the *QRI*. The most useful measure of prosody is reading from either instructional level or frustration level material. Because examiners are not able to predict the levels for a student, prosody measures must be taken immediately after the student reads aloud. The rating should come before the student is asked to retell the passage so that the examiner does not forget how the reading sounded. After determining the instructional level based on accuracy and comprehension, the examiner should compare the prosody ratings when the student reads at instructional versus frustration levels.

How should fluency be measured in an informal reading inventory? Should accuracy and rate be considered separately, or should accuracy be subsumed within the metric "correct words read per minute"? What measure of prosody should be used? The National Assessment of Educational Progress (NAEP) scale combines several measures of prosody: phrasing, expressiveness, and adherence to author's syntax (Pinnell et al., 1995). But another view of prosody is multidimensional separating of phrasing and expression as one factor, accuracy and smoothness as another, and pacing as the third (Rasinski, Rikli, & Johnston, 2009).

Valencia and colleagues (2010) examined the developmental course of fluency development and its relationship to overall reading comprehension among second-, fourth-, and sixth-grade children. Fluency was measured by oral reading accuracy and rate, at one minute and three minutes, and by the NAEP rating of prosody. They concluded that rate, accuracy, and prosody should be used as separate measures of fluency. This will maximize the prediction of overall reading comprehension and provide the most diagnostic information. For example, students with the same words correct per minute (WCPM) could have very different profiles. A student might read accurately, but slowly. Another might read quickly but make many errors. These suggest different instructional interventions. Not surprisingly, comprehension of a grade-level passage also added to the prediction of overall reading comprehension in the Valencia et al. study. An examination of factors that predicted reading comprehension found that word recognition accuracy was the more powerful predictor of reading comprehension in first- and second-grade students, but beginning in third grade fluency was a better predictor (Language and Reading Research Consortium, 2015).

The *QRI-7* will continue its use of oral reading accuracy, rate, and comprehension to assess students' reading abilities. In the sixth edition we added a prosody rating used by NAEP (Pinnell et al., 1995) at grade levels 1 through 6 (Valencia et al., 2010), which is shown below.

Oral Reading Prosody Scale—*QRI-7*. Directions: Please circle the number below that best represents the student's one-minute oral reading of this passage. It is best to measure this in the middle of the passage because students often are less prosodic when reading the beginning of a text.

4	3	2	1
Reads primarily in larger, meaningful phrase groups. Some or most of the story is read with expression.	Reads primarily in three- or four-word phrase groups. Little or no expressive interpretation is present.	Reads primarily in two-word phrases with some three- or four-word groupings. Word groupings may be awkward.	Reads primarily word-by-word with occasional two-word or three-word phrases.

Because growth in prosody occurs most rapidly in the early primary-grade years, assessing prosody should begin in first-grade-level text (Kim et al., 2010; Miller & Schwanenflugel, 2008). It should continue through sixth grade because prosody is still related to comprehension in fifth and sixth grades (Klauda & Guthrie, 2008; Valencia et al., 2010). More information on the scoring of prosody can be found in Section 6.

In addition to word recognition and fluency, there are three other factors that affect reading comprehension: content knowledge of the ideas in the text, text structure, and the methods of assessment.

Pearson eText Application Exercise 2.3: Understanding Reading Fluency

Content Knowledge

Research on the effects of content knowledge on reading comprehension has been conducted for over 40 years. Initially, studies examined how comprehension differed as a function of adults' cultural or religious perspective (e.g., Lipson, 1983; Steffenson, Joag-Dev, & Anderson, 1979). This was followed by examination of the role of specific content knowledge on students' comprehension of text (Taft & Leslie, 1985; Recht & Leslie, 1988). More recently, content knowledge has been one of several measures used to predict reading comprehension. Studies have examined the relative contribution of content knowledge, strategy use, and word decoding to predict comprehension (Samuelstuen & Bråten, 2005). Because of the consistent power of prior knowledge to predict comprehension, researchers have measured content knowledge and attempted to control for its effects while studying other variables related to comprehension (Taboada & Guthrie, 2006). In a similar vein, domain knowledge (knowledge within a subject area, such as cell biology) has been measured to compare students' use of strategies to regulate their comprehension. Students with domain knowledge plan and monitor their comprehension, but do not engage in note taking or summarizing (Moos & Azevedo, 2008). These strategies are used by those without a domain knowledge base, presumably to build that base.

Another area of research has examined how incorrect knowledge in science (i.e., a misconception) can be changed to scientifically valid knowledge. The question has been: What will it take to change the understanding of a science concept from an everyday understanding to a scientifically valid one? It is not enough to simply explain the scientific perspective, but rather the belief must be refuted by stating the misconception in the text, such as, "If ____ is what you believe, you are mistaken," or some other direct indication that the reader's knowledge is wrong. It is necessary to explicitly state the misconception, refute it, and then present the correct conception for college students to change their beliefs (Braasch, Goldman, & Wiley, 2013). It is unlikely that younger students would need less.

The measurement of prior knowledge has taken many forms, including multiple-choice tests (van Kesteren et al., 2014), oral and written interviews, open-ended questions (e.g., Cordova, Sinatra, & Jones, 2014; Johnson, Ozogult, & Reisslein, 2014; Roelle et al., 2015), oral or written predictions, and "tell me everything you know about ____." Each method is likely measuring something different. For example, students who can articulate a coherent, organized essay about their knowledge of a concept have a depth of knowledge far beyond someone who answered many factual questions on a multiple-choice test.

Implications for Development of the *QRI*. Studies of previous editions of the *QRI* have shown that asking students what a word or concept means correlates more highly with text comprehension than general instructions that ask students to tell us what they thought of when they heard a word (Leslie & Cooper, 1993). Therefore, the *QRI-7* continues with a direct questioning method to assess students' knowledge. The purpose of the concept measure is to provide a reason why some students do not understand the material that they read. That is, if a student scores below 70% comprehension on a text, it may be because the student had little to no understanding of important concepts in the text. Details on scoring the prior knowledge task can be found in Section 4.

Text Structure

Reading literature, social studies, or science involves some similar processes. Readers identify both unfamiliar and familiar words, attain automaticity in doing so, and comprehend connected text. However, to comprehend text in different disciplines, additional skills are required. Reading comprehension is "context-dependent and influenced in part by the kind of text that one reads" (Shanahan, 2009, p. 257).

Children's familiarity with the structure of narratives is greater than their familiarity with the structures of expository text. Children have been read more narrative than expository texts. Even now, when teachers are encouraged to include nonfiction in reading and language arts activities, children's experiences with narratives likely predominate. Another reason that narrative text may be easier to comprehend may be related to readers' knowledge of content. Students tend to know more about the topics discussed in narrative writings (people, events) compared to those usually presented in expository texts. A "genuine predictor of reading comprehension is children's narrative reasoning, the ability to understand the elements and relations in goal-directed narratives" (Paris et al., 2005 p. 153).

Differences in text structure have often been described as fiction/nonfiction or narrative/expository. These relatively simplistic categories do not capture the nature of the different text structures present in the disciplines of literature, social studies, and science. For example, literature includes short stories, plays, essays, biographies, poetry, and novels. Social studies contains the disciplines of history and political science, while science embraces biology, chemistry, and physics, to name a few. Each of these subdisciplines has a unique structure and content (Shanahan, 2009).

Children's knowledge of expository structure is less developed than their understanding of narrative structure (Klingner & Vaughn, 2004). History texts, for example, often focus on chronological accounts and cause-effect relationships; science texts emphasize procedures and explanations. Using think-alouds and focus-group discussions, researchers have identified important differences in how disciplinary experts read text in their specific discipline (Shanahan, Shanahan, & Misischia, 2011). Historians paid attention to text authors' point of view and the source of their information, while chemists regarded the author as a possible predictor of quality. When the text was written was another issue. Historians were concerned that this might influence the content, while chemists were concerned with whether the content represented out-of-date material. Finally, the experts' knowledge base was used in interpreting the article. Historians focused on whether the author represented a credible source. Chemists defined text credibility as "plausibility or its congruence with scientific evidence" (Shanahan, Shanahan, & Misischia, 2011, p. 420). A student who demonstrates skill in comprehending stories will not necessarily be as adept when asked to comprehend a play. Similarly, a student who comprehends a history text may or may not be as successful when reading about a science experiment. Recent evidence suggests that comprehension of narrative text is superior to comprehension of expository text even among average students in middle school (Dickens & Meisinger, 2017).

Implications for the Development of the *QRI*. The *QRI* continues to provide both narrative and expository texts from the pre-primer level through high school. In addition, from third grade through high school, at least one social studies and one science passage is included. These Level Diagnostic materials allow a user to examine whether a student's instructional reading level varies depending on the genre or content area being read.

Pearson eText Application Exercise 2.4: Understanding Text Structure

Methods of Assessment of Reading Comprehension

Reading comprehension has been measured by:

- retelling and summarization
- answering questions

Retelling and Summarization. Retelling and summarizing are two distinct cognitive skills (Kintsch & van Dijk, 1978). Although they are often considered to be interchangeable, they "do not measure equivalent cognitive processes" (Reed & Vaughn, 2012, p. 211).

Like its name suggests, a retelling is usually oral in nature. Because it generally occurs without looking back in the text, memory plays a large part in the amount of text recalled. Because a retelling is often assessed in an oral mode, language production also plays a part (Reed & Vaughn, 2012). A retelling indicates how the student has organized the text in memory and may divulge inferences made during comprehension. Unfortunately, little consensus exists about how retelling quality should be determined. Scoring rubrics can include such components as gist/main idea statements, details/story elements, interpretive ideas, generalizations, retelling coherence, retelling completeness, use of linguistic/language conventions, inclusion of additional information not in the passage, and scorer ratings of effectiveness (Brown et al., 1996; Hall, Markham, & Culatta, 2005; Romero, Paris, & Brem, 2005). However, Reed and Vaughn determined that none of these clearly discriminate between students at different percentiles for reading, and they concluded that "retell scores derived through quantitative methods have not yet demonstrated they function well in monitoring students' reading progress or in determining their understanding of narrative and expository text" (Reed & Vaughn, 2012, p. 198).

In contrast to retelling, a summarization generally focuses on "the most relevant ideas and salient details" (Klingner, Morrison, & Eppolito, 2011, p. 234). Perin (2007) describes the following operations for summary writing: delete unnecessary and redundant material; select general words to replace lists of items or actions; and select or compose a topic sentence. Writing a summary usually involves review of the text and multiple revisions on the part of the author (Helsel & Greenberg, 2007).

The goal of using students' retelling or summarization data is to guide instruction. Retelling and/or summarizing are important skills. Not only are they important for success in school, they represent tasks that individuals engage in every day as they describe a sequence of events or summarize the contents of a newspaper editorial. In addition, acquisition of the skills of retelling and summarizing is often included in national and state educational standards (CCSSO, 2010). However, these scores are not to be used to determine a reading level. Additional information on retelling can be found in Section 7 and on summarization in Section 11.

Implications for the Development of the *QRI*. *QRI-6* made changes to the scoring of the retelling. First, instead of listing the propositions in the story, we listed sentences. This change was made because we believed that using the proposition as the unit of analysis was too detailed, and basic research had been using clauses and sentences (Trabasso & Magliano, 1995). We also listed only sentences that were either important to the text or recalled by at least 33% of the students in recent pilot studies. Because adjectives and adverbs are meaningful only in connection to specific nouns or verbs, students receive credit if they identify and/or paraphrase the noun and verb. Finally, recent research has indicated that good and poor readers can correctly answer inference questions when they recall the information necessary to make the inference during retelling (Hua & Keenan, 2014). The implication for the *QRI-7* is that our retelling forms include any information necessary to answer one of our implicit or inference questions.

The Level Diagnostic Passages from pre-primer through high school provide an opportunity to evaluate the completeness and accuracy of oral retellings. After reviewing over 50 studies of retelling as an indicator of comprehension, Reed and Vaughn stated that "little guidance was provided (*by research*) for making conclusions about what a desirable percentage of recalled idea units might be or what percentage might indicate comprehension difficulty" (Reed & Vaughn, 2012). Therefore, we do not suggest that you derive a numerical score for retellings but instead analyze the quality of the retelling. Did it include the components of narrative structure? Did informational recall focus on main ideas with some supporting details?

We also developed Inference Diagnostic Passages from fourth grade through high school. There is one biography, one social studies, and one science text at each level. These texts are longer than the Level Diagnostic Passages. They can be administered in groups, with written responses required of the students, or individually in an oral format.

Pearson eText Application Exercise 2.5: Understanding Retelling and Summarization

Asking Questions. Questions used to assess comprehension have traditionally been divided into two categories: literal and inferential.

- Literal questions ask what was explicitly stated in the text and usually begin with such words as "who," "what," "where," and "when."
- Inferential questions are defined as those requiring an inference to answer.

Taxonomies of question forms have identified different types of inferential questions (Applegate, Quinn, & Applegate, 2002; Bloom & Krathwohl, 1956; Ciardiello, 1998; Graesser, Ozuru, & Sullins, 2010; Mosenthal, 1996; Raphael, 1982, 1986). These taxonomies suggest that inferential questions vary considerably in what students must do to answer the questions. Drawing an inference is not a unitary concept, and there are different types of inferences, with some demanding a higher level of comprehension than others. Such taxonomies also suggest that the ability to answer one form of inference may not transfer to a different form.

Perhaps the most well-known taxonomy of question types is that of Bloom's six categories: knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom & Krathwohl, 1956). A revision of Bloom's original work (Anderson & Krathwohl, 2001) offered the following levels: remembering, understanding, applying, analyzing, evaluating, and creating. Other question taxonomies followed; like Bloom, they based questions types on the cognitive processes believed to be needed to answer different kinds of questions.

Davis (1968, 1972), one of the first to conceptualize comprehension as involving different processes, proposed nine logically distinct comprehension skills: remembering word meaning; determining word meaning from context; understanding explicitly stated content; weaving together ideas in the text; drawing inferences; formulating the main thought of a text; recognizing the author's purpose, mood, and/or tone and point of view; identifying literary techniques; and following the structure of the text. Although he believed these cognitive processes would be independent, the data showed that only two factors accounted for differences in comprehension: memory for word meanings and the ability to make inferences from the content.

More recent attempts to develop question taxonomies have been based on the information being sought in a good answer and have reduced the number of categories to three or four. For example, Graesser and Person (1994) based their taxonomy on "the nature of the information being sought in a good answer to the question" (Graesser, Ozuru, & Sullins, 2010) and categorized question types in three ways:

- Shallow: provide an example, state whether something occurred or did not occur
- Intermediate: definitions, comparisons, determining the value of something
- Complex: interpretations of data; causes or consequences; goals and resources; goals, instruments, and procedures (in science)

Mosenthal also differentiated questions in terms of the type of information needed to provide an acceptable answer but added that questions also varied "on

how concrete or abstract different types of requested information are" (1996, p. 323). Like Graesser and Person (1994), Applegate, Quinn, and Applegate (2002) divided inferential question types into three levels: low, high, and response. "While high level inferences are directed toward a specific element or problem in the passage, response items require a reader to discuss and react to the underlying meaning of the passage as a whole" (Applegate, Quinn, & Applegate, 2002, p. 176). Although the authors rated the questions on the *QRI* as the most difficult, they criticized existing informal reading inventories for not differentiating or controlling for the type of inference questions used to determine student understanding of a text.

Figure 2.1 illustrates a classification schema for inference questions when all the taxonomies are considered.

Despite differences in terminology and number of question categories, all taxonomies recognize that the term "inference" is not a unitary concept; it embodies a variety of different cognitive activities. These various taxonomies suggest that inference questions are generally more difficult to answer than literal questions. In a similar vein, it has often been assumed that poor readers experience more problems in answering them than do good readers. However, Hua and Keenan (2014) found no difference between good and poor readers in answering inference questions when they possessed memory for what was read. Using *QRI* retelling sheets, they first asked readers to retell what they read, and then asked the questions. No difference was noted between good and poor readers' answers to inference questions if their retelling included part of the text necessary for a specific inference. They concluded that "text memory is crucial in distinguishing poor comprehension" (Hua & Keenan, 2014, p. 415). Accordingly, we modified *QRI* retelling forms to include all elements critical for answering inference questions (see Section 7 for details on scoring retellings).

In practice, taxonomy levels are defined by question stems, that is, the words used to describe what a student should do. A question stem can use a question word, such as *who, what, when*, or *where*, or it can include a direction, such as *explain, describe*, or *analyze*. It is assumed that students understand the subtle differences between question stems. For example, does *analyze* differ from *interpret*? Do *compare* and *categorize* carry the same or different meaning? A student's ability to answer a question obviously depends on his or her ability to read the text, but it also depends on the student's understanding of the question stem. The Common Core State Standards Initiative (CCSSO, 2010) uses uniform question stems across grade levels: determine, cite, analyze, assess, interpret, integrate, evaluate, and compare. Figure 2.2 lists commonly used question stems divided into literal and inferential.

Figure 2.1

	Question Types	
Low Level Literal	**Inference Application**	**Inference Analysis**
Basic	**High or Intermediate**	**Highest Level Complex**
Who was involved?	What is an example of ...?	What caused ...?
What happened?	What are qualities of ...?	What are consequences of ...?
When did it happen?	What is the value of ...?	What are motivations/goals?
Where did it happen?	What does ... mean?	How were goals accomplished?
	How are ... similar/different?	

Figure 2.2 Question Stems/Words

Literal Question Stems	Inferential Question Stems
who, what, where, when, list, identify, name	analyze, assess, categorize, classify, compare, connect, conclude, contrast, defend, define, delineate, demonstrate, determine, describe, discuss, evaluate, explain, how, infer, integrate, interpret, judge, justify, predict, provide evidence, recommend, summarize, why

That inferencing ability is not a unitary concept was demonstrated by our research experience with the *Content Area Reading Assessment* (Leslie & Caldwell, 2015) (*CARA*), a group-administered content area assessment. Over 3,000 students in grades 4–9 with wide-ranging differences in achievement revealed consistent weaknesses in certain types of inferential comprehension, depending on the level of the text and the content area. If average-achieving students show such weaknesses, it seems likely that struggling readers will do so as well, even when reading materials are at their instructional level.

Implications for the Development of the *QRI*. Questions asked on the Inference Diagnostic Passages are all inferential. The stems are designed to be parallel across narrative and expository texts. Figure 2.3 illustrates these question stems. More information on these types of questions can be found in Section 11.

Pearson eText Application Exercise 2.6: Understanding Inferential Questions

Look-Backs. There are two different forms of look-backs: looking back during reading and looking back after reading. The former is often examined through analysis of eye movements and is beyond the scope of an informal reading inventory assessment. Looking back after reading often occurs in response to a specific need or direction. The reader may be asked a direct question about the text or may wish to review, clarify, or expand on what was read.

Looking back in the text has taken on increased importance in relation to close reading. The Common Core State Standards "focus on students reading closely to draw evidence and knowledge from the text" (Coleman & Pimentel, 2011, p. 1). Students are expected to answer text-dependent questions that focus on ideas and information present in the text (Hinchman & Moore, 2013). This can involve multiple readings (Fisher & Frey, 2014) and multiple occasions for engaging in look-backs.

Figure 2.3 Question Stems for Narrative and Expository Texts on Inference Diagnostic Passages

Narrative Passages	Expository Passages
Support an inference	Support an inference
Determine theme	Determine central idea
Explain why or how	Explain why or how
Determine word meaning	Determine word meaning
Determine point of view	Determine point of view
Determine text structure	

From the viewpoint of literacy assessment, allowing a student to look back in the text differentiates between understanding during reading and memory for what was read and understood. Leslie and Caldwell (2009, 2006, 2001) found that students with reading levels at third grade and above were able to use look-backs effectively; that is, they were able to skim the text, find the location of the answer, and respond with a correct answer that was unavailable to them without looking back. If looking back increases comprehension, it suggests that assessments that do not allow look-backs may underestimate a student's level of comprehension.

The *QRI-7* includes the option of asking students to engage in look-backs to resolve comprehension failures. That is, students first answer questions, then, after all questions are answered, the examiner asks them to look back on questions that were not answered correctly. Examining whether students can look back and correct or add to answers provides valuable information for instruction. If a student is not able to do this, instruction should point out helpful look-back components such as topic headings and signal words. Additional information on look-backs can be found in Section 7 and analysis of our look-back data is in Section 13.

Pearson eText Application Exercise 2.7: Understanding Look Backs

Interactive Strategies to Assess Reading Comprehension

Thinking Aloud. Asking readers to read a selection and think out loud as they do so can provide valuable information about the strategies that readers use as they attempt to comprehend text. It offers the opportunity to gather observations about the thinking that occurs during the reading process.

Over two decades ago, Pressley and Afflerbach (1995) provided a comprehensive summary of studies that examined the think-aloud process and concluded that skilled readers and those with higher levels of prior knowledge employ more and varied think-aloud strategies than poorer readers or those struggling with unfamiliar text. Leslie and Caldwell (2009) summarize research studies on a variety of issues related to think-alouds:

- their relationship to comprehension;
- their use with different forms of text and different age groups;
- the validity and reliability of the system devised for coding reader comments; and
- the amount of text read prior to offering a think-aloud comment.

Traditional assessment measures often have predictive validity; that is, good performance on these measures tends to predict average or above-average classroom performance. However, such measures do not assess process and offer no suggestions for increasing learning. Thinking aloud "captures the process, not just the end product of reading" (Paris & Hamilton, 2009, p. 36). For example, Shanahan, Shanahan, and Misischia (2011) used think-alouds to determine how specialists in history, mathematics, and chemistry read and comprehend text in their disciplines. Think-aloud data can suggest instructional directions; that is, a think-aloud can act as a "method of inquiry and also as a means of facilitating student comprehension of text" (Gavelek & Bresnahan, 2009, p. 158). For example, lack of inferential comments by a student may suggest a need to focus on drawing inferences during instruction.

A series of studies have identified two groups of struggling comprehenders (Kraall et al., 2017; McMaster, Espin, & van den Broek, 2014; McMaster et al., 2012; Rapp et al., 2007). One group, called elaborators, make inferences while thinking-aloud;

however, many of their inferences are invalid or inaccurate. The other group, called paraphrasers, tend to restate what the text says and do not generate causal connections between events in narrative text. McMaster and colleagues (2012) examined whether different instructional conditions would differentially affect the two types of fourth-grade struggling readers. They reasoned that elaborators would benefit from causal questions that prompted them to think of causal relationships among events in the story. In contrast, paraphrasers would benefit more from general questions that asked, "How does the sentence you just read connect with something that happened before in the story?" Their results supported these predictions.

Implications for the Development of the *QRI*. We included passages that included locations for think-alouds at the high school level beginning with the third edition. For the fourth edition, we added think-aloud passages to the sixth-grade and upper middle school nonfiction texts, where we estimated the greatest problems in comprehension would occur. New to the seventh edition are two narrative texts with think-aloud formatting, one at the sixth-grade level and one at the upper middle school level. Based on the research cited above, we recommend that users of the *QRI-7* use think-aloud passages to assess to which group a struggling reader belongs and then design intervention based on recommendations by McMaster et al. (2012). An explanation of the development of think-aloud materials and their use can be found in Section 8 and analyses of the think-aloud data can be found in Section 13.

Pearson eText Application Exercise 2.8: Understanding Think Alouds

Summary

The *Qualitative Reading Inventory-7* is an informal reading inventory based on a large research base. This section has reviewed that research and described how it guided development of the *QRI*. In addition, our procedures and materials have undergone extensive piloting over the past 25 years, and some of those results are presented in Section 13. The next sections will provide you detailed instructions on how to administer, score and interpret the *QRI*.

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Section 3

Purposes and Basic Steps for Administering the *Qualitative Reading Inventory-7*

Chapter Outline

PURPOSES FOR ADMINISTERING *QRI-7*

Determine a Student's Instructional Reading Level

The primary purpose for administering the *QRI-7* is to determine a student's instructional reading level. There are three distinct reading levels: independent, instructional, and frustration. Passages at a reader's independent level can be read independently with adequate word identification and comprehension. An instructional-level passage can be read successfully with the support of the teacher. Intervention instruction focuses on passages at this level. Frustration passages are what the name suggests—they are beyond the ability of the reader and are generally avoided in intervention.

Passages in the *QRI-7* include narrative and expository selections from pre-primer through middle school, and expository selections through high school. Expository texts contain examples of both social studies and science passages. This allows the teacher to

examine a student's reading ability in three very different kinds of texts: narrative, social studies, and science. Comprehending a text is dependent upon understanding text structure. The structure of a narrative includes the setting, a main character, the character's problem/s, and how the problem is solved. The structure of expository material is very different. It centers on identification of the topic, what the author says about the topic, and identification of the main idea (which may or may not be explicitly stated). An expository text can have a different topic and main idea in succeeding paragraphs. Because of these differences, a reading level for narratives seldom transfers to an expository selection.

Using *QRI-7* to determine an individual's passage level involves two steps. First, a student orally reads a list of words, and the examiner uses the student's performance to determine the level of passage that is appropriate to begin passage administration. Second, the student reads one or more passages orally and/or silently. Oral reading allows you to examine a student's word identification strategies and his/her reading fluency. For students in fourth grade and above, it is important to examine the extent to which a student has transitioned to effective silent reading, so silent reading may be more appropriate. For both oral and silent reading, the examiner evaluates a student's comprehension in two ways: asking the student to retell the text, and then asking the student to answer explicit and implicit questions. See Figure 3.1. Evaluating word recognition on word lists and in stories and evaluating comprehension through retelling and asking questions is described in detail in Sections 5, 6, and 7.

Figure 3.1 Purposes for Administering the *Qualitative Reading Inventory-7*

Goal	Materials	Purpose	Student Reads Orally or Silently?
Determine a Student's Instructional Reading Level	Word Lists	- Determine a starting point (level) for passage administration	Orally
	Level Diagnostic Passages	- Determine instructional level based on two factors: 1) number of miscues (if read orally), and/or 2) number of explicit/implicit questions answered correctly**	Orally and/or silently*
Assessment of Prior Knowledge	Concept Questions (Located before each Level Diagnostic Passage)	- Evaluate a student's comprehension in relation to their knowledge base (familiar and unfamilar topics)	N/A—Prereading questions to be answered orally
Assessment of Word Pronunciation Errors, Fluency. and Prosody	Word Lists	- Examine a student's word identification strategies (in isolation)	Orally
	Level Diagnostic Passages	- Examine a student's word identification strategies (in context) by counting total miscues - Examine a student's fluency by calculating words correct per minute (WCPM) and using Oral Reading Prosody Scale	Orally
Assessment of Comprehension: Retelling and Answering Questions	Level Diagnostic Passages	- Examine a student's comprehension by asking the student to retell the text - Examine a student's comprehension by asking the student to answer explicit and implicit questions about the text**	Orally and/or silently*
Assessment of Comprehension: Look-Backs and Think-Alouds	Level Diagnostic Passages	- Examine a student's comprehension by asking the student to answer explicit and implicit questions about the text using look-backs to correct any errors - Observe a student's thought patterns (comprehension) while reading a text using think-alouds	Orally and/or silently*
Assessment of Reading Growth	Word Lists and Level Diagnostic Passages	- Measure growth by determining a student's instructional reading level (see above) at different points in the school year. Note: passages used for pre- and post-testing should come from the same type (i.e., both narrative, both social studies, or both science)	Orally and/or silently*

*For students in fourth grade and above, it is important to examine silent reading ability.

**Beginning at the third-grade level, passages include guidelines for scoring with and without look-backs.

Assessment of Prior Knowledge

Each selection is prefaced by three or four concept questions that are scored on a 3-2-1-0 scale of familiarity. Asking these questions prior to reading allows you to determine whether the topic of a selection is familiar to the student. Readers generally do better with text about familiar topics, and often have lower reading levels when reading unfamiliar material.

Many of the passages at the pre-primer through third grade levels focus on familiar topics such as birthday parties, pets, seasons, and family trips. However, at the fourth-grade level and above, they center on topics that may be unfamiliar to the reader. Assessing the level of a student's reading of unfamiliar material can indicate the nature of instruction that is needed, especially for students in grades 4 and above.

We strongly recommend that you administer the concept questions. It does not take long, and it activates student background for the topic of the passage. It also allows you to evaluate comprehension in relation to the student's knowledge base and can suggest a direction for intervention activities. For example, difficulty in reading unfamiliar text below or at a student's chronological grade level suggests that strategies for reading and comprehending such a text should represent a focus for intervention instruction. An explanation of how to score student responses to the concept questions is provided in Section 4.

What if you cannot find a familiar passage? *QRI-7* passages at the pre-primer through third-grade levels represent narratives on relatively familiar topics, so this is seldom an issue at those levels. However, if responses to the concept questions suggest unfamiliarity on the part of the student, you have two options: select another passage, or administer the selection but note that performance may have been influenced by a student's lack of prior knowledge.

Pearson eText
Video Example 3.1

Using Concept Questions to Assess Prior Knowledge
This video includes an example of how the concept questions are introduced to the student and how they are scored. Pay attention to how the examiner writes what the student says.

Assessment of Word Pronunciation Errors, Fluency, and Prosody

There are two ways to assess a student's ability to accurately pronounce words: administering the word lists and administering the passages. The word list requires readers to pronounce words without the support of passage context. Words on the word lists are taken from the passages, which allows you to compare a student's word recognition without and with the support of context. Some readers do better when pronouncing single words; others do better when reading words in the context of a sentence or passage.

Performance on the word list can indicate the level of passage to select for additional assessment. Choose a passage level where the student has attained an independent level ($\geq 90\%$) on the word list at that level. This helps to avoid starting too low or too high. If the passage is too difficult, frustration at the beginning of a testing session can prejudice the student against the entire process. Administering and scoring the word lists is described in Section 5.

As the student orally reads a passage, record all word pronunciation errors or miscues. These include the following: substitution of a word for the word in the passage; omission of a word or words; insertion of a word or words; and reversals of words. The number of oral reading miscues determines the level for word identification in context. Recording and analyzing word pronunciation errors is explained in Section 6.

To examine the student's fluency, time how long it takes the student to orally read a passage and calculate the number of words correct per minute (WCPM). Also consider the student's prosody or expressive reading. Charts for determining WCPM and for rating prosody are part of scoring for each passage.

Assessment of Comprehension: Retelling and Answering Questions

There are two options for assessing whether the student has comprehended the text: retelling and answering questions. After the student has read the text orally or silently, ask the student to retell what was read. Each passage has a retelling scoring sheet that allows you to evaluate retelling in terms of the structure of the text. For narrative materials, the retelling scoring sheet includes the following topics: setting/background, goal, events,

and resolution. For expository passages, the retelling scoring sheet focuses on main ideas and details.

After retelling, ask the student to answer the questions that follow each passage without looking back in the text. Selections have five, six, eight, or ten questions depending upon the grade level of the passage. Questions are both literal (explicit) and inferential (implicit) in nature. The number of questions that are answered correctly determines the level of comprehension. It can also indicate differences in the types of questions that a student can answer. For example, students often do well with literal questions for which answers are stated explicitly in the text. But the same students may have difficulty with inferential questions.

Assessment of Comprehension through Look-Backs and Think-Alouds

Asking the student to look back in the text to correct an erroneous answer is most effective at or above the third-grade level. A student who can correct errors probably understood the text at least after rereading. Stopping after the student has read a segment of text and asking the student to say what s/he is thinking about is appropriate for the sixth-grade level and above. It allows you to observe the student's thought patterns as s/he reads the text. Look-backs are explained in Section 7, and think-alouds are explained in Section 8.

Assessment of Reading Growth

As stated in Section 1, the *QRI-7* is commonly used to:

1. determine the student's instructional reading level, and
2. determine the student's strengths and weaknesses in reading.

In addition, it can be used to determine how far the student's instructional level is below his or her grade placement. Also, the *QRI-7* can be used to assess a student's growth in the level of materials that he or she can read successfully; that is, to determine a change in the student's instructional reading level. The pre-test and post-test passages must be of the same type: narrative, social studies, or science. Do not assume that success in reading narratives will carry over to social studies and science texts. Several published studies have used the *QRI* to document growth in reading based on a specific type of instructional program or intervention. Some of the studies that used the *QRI* for research purposes are found in the References and are marked with an asterisk.

The *QRI-7* allows you to determine one or more reading levels for an individual student based upon the nature of the text and the reader's prior knowledge. It can also be used to answer the following questions about a student's strengths and needs. At what level and in what type of text (narrative or expository) can a student:

1. identify words accurately and automatically? (Section 5 and 6)
2. read with acceptable fluency or prosody? (Section 6)
3. retell what was read? (Section 7)
4. answer explicit or literal questions? (Section 7)
5. answer implicit or inferential questions? (Section 7)

Figure 3.1 summarizes the purposes for administering the *Qualitative Reading Inventory-7*.

STEPS IN ADMINISTERING THE *QRI-7*

Gather Materials and Put Students at Ease

Administer the *QRI-7* in a quiet place that is free from distractions. Before meeting the student, gather all materials: word lists, student passages, and accompanying sheets for your recording. We strongly recommend audio recording the entire session so you can listen to the student later and verify your scoring accuracy. It is often difficult

to determine how many scoring sheets to prepare, and it is better to have too many than not enough. If you prepare a kit of scoring sheets for all the passages and organize them according to grade level, this can ensure that the correct passages will be available.

Before beginning the testing, strive to put the student at ease. Engaging in conversation about the student's interests can act as an effective ice-breaker. Some students are concerned about the examiner's use of a timer or recorder. Placing both out of immediate sight can make them less noticeable. Explain that you are recording the session to help you and make certain that you do not make mistakes. This usually relieves anxiety on the part of the student.

Tips for Administering the *QRI-7*

- Choose a location that is free from distractions.
- Before meeting, gather all materials (word lists, passages, and scoring sheets).
- It is better to have too many materials than not enough. When preparing a kit of passages and scoring sheets, organize by grade level.
- Audio record each session (***strongly recommended***) to allow for scoring verification later.
- Put the student at ease:
  - Engage in conversation about their interests as an ice-breaker.
  - Place your timer and audio recording device out of immediate sight.
  - Explain that you are recording the session to make certain you do not make mistakes.

Administer the Word Identification Lists

The word lists provide a quick estimate of a student's word identification ability. Administer the word-identification lists to estimate a starting point for selecting the passages. Score them immediately to select the first passage. Detailed instructions are provided in Section 5.

Administer an Initial Passage

Select an initial passage at the same level as the highest level where the student scored 90% + on the word lists. If a student does not score at 90% or above for any word list, select a passage at the highest level attained by the reader. Narrative assessment represents a good beginning point. It is generally easier than expository text, and often leads to initial experiences of success for younger students

Each passage is preceded by three to four concept questions. Asking these can determine whether the topic of the passage is familiar to the student. Passages at the pre-primer through third-grade levels generally represent topics that are familiar to most students. This may not be the case for passages at a fourth-grade level and above. If the concept questions suggest that the topic is not familiar, select another more familiar passage for the first passage. Reading about a familiar topic usually represents a student's highest achievement. Although a narrative text is a good starting point for students in fourth grade and above, it is important to also assess their ability to comprehend expository text. (See Sections 6 and 7.)

Administer Additional Passages

There are several reasons for administering additional passages. The initial passage may not clearly indicate a student's instructional level; that is, the student may perform at an independent or frustration level. One or more additional passages may be necessary to determine the student's highest instructional level.

An instructional level in narrative text does not guarantee that the student will read expository texts at that same level. It is particularly important that students in fourth grade be taught how to read and comprehend unfamiliar expository text, as that is what they meet every day in their content classrooms. Also, for students in fourth grade and above, silent reading should be assessed, as older students are often hampered by a slow rate of reading.

FREQUENTLY ASKED QUESTIONS

Do I have to administer the concept questions? We strongly recommend that you administer the concept questions. It does not take long, and it activates student background for the topic of the passage. It also allows you to evaluate comprehension in relation to the student's knowledge base and can suggest a direction for intervention activities. Difficulty in reading unfamiliar text below or at a student's chronological grade level suggests that strategies for reading unfamiliar text should represent a focus for intervention instruction.

What if I cannot find a familiar passage? *QRI-7* passages at pre-primer through third-grade levels represent narratives on relatively familiar topics, so this is seldom an issue at those levels. However, if responses to the concept questions suggest unfamiliarity on the part of the student, you have two options: select another passage or administer the selection but note that performance may have been influenced by a student's lack of prior knowledge.

What level of passage should I begin with? Choose a passage level at which the student has attained an independent level ($\geq$ 90%) on the word list. This helps to avoid starting too low or too high. If the passage is too difficult, frustration at the beginning of a testing session can prejudice the student against the entire process. See Section 5 for more details regarding word list administration and scoring.

How do I find an instructional level? The instructional level is the level at which a student can read with assistance. Section 4 explains in detail the procedure for determining an instructional level. At the instructional level, oral reading accuracy is 90% if all errors are counted and 95% if only meaning errors are counted, and comprehension is between 70% and 88%. See Section 6 for more details about finding an instructional level for both word identification and comprehension.

What if a reader's total miscues and total number correct on the questions suggest different reading levels (e.g., total miscues indicate instructional level but responses to comprehension questions indicate frustration level)? Focus on the lowest level when choosing the next passage. For example, if a student reads a third-grade passage and scores at an instructional level for word identification but a frustration level for comprehension, have the student read a second-grade passage. See Section 4 for more information about determining the instructional level.

Must I find independent, instructional, and frustration levels for all types of text, narrative/expository and familiar/unfamiliar? No. To do so would demand an unrealistic amount of time, and student fatigue would be a concern. Determining an instructional level in narrative text is of primary importance for younger students. For students in fourth grade and above, determining a level in expository material may be more helpful in describing the nature of a student's difficulty.

Which mode should I use: oral or silent? We suggest that you use an oral reading format with primary-grade children and with older students suspected of reading below the third-grade level. You can estimate this by the word list scores. For students reading at third-grade through fifth-grade levels, use a combination of oral and silent reading. Once you establish an instructional level, you can change to a silent reading mode. It is important to evaluate ability in expository text through silent reading, because most students are expected to read such material silently in school. For students reading at the sixth-grade through high school level, silent reading is the best format because individuals do little oral reading at these levels.

Section 4

Determining Reading Levels

Chapter Outline

HOW ARE READING LEVELS DETERMINED?

A student's reading level is estimated in two ways depending on whether the text is read orally or silently.

Oral Reading

- The number of word pronunciation errors made by the reader (often called miscues)
- The number of questions that the reader answers correctly

Silent Reading

- The number of questions that the reader answers correctly

These scores are used to identify three levels:

- The level at which a student can read independently
- The level at which a student can read with instructional guidance
- The level that causes a student to experience frustration

The Independent Level

This is the level at which a student can read successfully and without any assistance. Oral reading is fluent. The student reads in phrases and with expression. The student comprehends the text and correctly answers most questions. Materials written at this level are appropriate for the student's personal independent reading. Figure 4.1 outlines performance indicators associated with the independent level.

Figure 4.1 The Independent Level

Oral Reading Accuracy:	98% if all errors are counted
Oral Reading Acceptability:	95–97% if only meaning-change errors are counted
Comprehension:	90%

The Instructional Level

This is the level at which a student can read with assistance. Materials written at an instructional level are appropriate for both reading instruction and content-area instruction. You may count student errors in two ways. Count all word identification errors using a criterion of 90% accuracy and/or count word identification errors that change meaning using a norm of 95% accuracy. Details on how to record and count word identification errors are explained in Section 6. The student must also correctly answer at least 70% of the comprehension questions. We recommend that you use total accuracy first, then look at miscues to judge meaning change. Figure 4.2 outlines performance indicators associated with the instructional level.

Figure 4.2 The Instructional Level

Oral Reading Accuracy:	90% if all errors are counted
Oral Reading Acceptability:	95% if only meaning-change errors are counted
Comprehension:	70–88%

The Frustration Level

At the frustration level, the student is not able to read with adequate word identification and/or comprehension. Oral reading lacks fluency and expression, and a word-for-word, halting style is common. Figure 4.3 outlines performance indicators associated with the frustration level.

Can a student have more than one reading level? Yes. It is simplistic to talk about a single independent, instructional, or frustration level for an individual. Reading is a very complex activity, and a variety of factors affect comprehension.

Figure 4.3 The Frustration Level

Oral Reading Accuracy: Below 90% if all errors are counted Below 95% if only errors that changed meaning are counted
Comprehension: Below 70%

Pearson eText Application Exercise 4.1: Determining Reading Levels Based on Number of Miscues

Pearson eText
Video Example 4.1

Using Concept Questions to Assess Prior Knowledge
This video includes an example of how the concept questions are introduced to the student and how they are scored. Pay attention to how the examiner writes what the student says.

FACTORS AFFECTING READING LEVELS

A variety of factors beyond word identification can affect an individual's reading level. These include the reader's prior knowledge of the subject matter, the structure of the text, the mode of reading, the type of questions used, and whether the student is allowed to use look-backs.

Prior Knowledge of the Topic

When readers possess extensive prior knowledge about a topic, they can read and comprehend at a higher level than when they are faced with unfamiliar content. This is well illustrated by the difficulty that able adult readers might have with an income tax form, the language of an insurance policy, or an article on quantum physics. Students generally have their highest reading level when reading material on familiar topics (e.g., classroom friends, birthday celebrations, famous people, etc.). The *QRI-7* estimates the familiarity of the text by asking three or four concept questions prior to each passage. These allow you to determine whether the topic of the passage is familiar or unfamiliar to the student; scoring examples are provided for each concept. Student responses are scored on a 3-2-1-0 basis. A score of 3 indicates that the student defined the term or gave a synonym or antonym for it. A score of 2 is given when the student provided a correct example of the term, an attribute of the term, or a function of the term. A score of 1 might include a personal association, or the isolation of a prefix, suffix, or root word contained in the word. A score of 0 is given when the response is not related to the term in any way. An example of concept questions is provided in Figure 4.4.

Figure 4.4 An Example of Concept Questions

Narrative Concept Question from "The Family's First Trip," Level 2:
What can children do to keep themselves busy on long rides in a car? *(Note: this concept cannot be defined, so there are no 3-point answers; 2: play games, read, use my iPad, any reasonable example; 1: sleep)*
What does it mean to travel? *(3: to go somewhere far, or go to another country/land; 2: go on vacation, beach 1: fun)*
How does the weather affect what you bring along on a trip? *(3: if it's raining you bring an umbrella/raincoat, if it's cold you bring a coat; 2: bring many types of clothes; 1: bring lots of clothes)*

Pearson eText Application Exercise 4.2: Using Concept Questions to Measure Prior Knowledge

Text Structure: Narrative and Expository

It is common for a reader to perform better while reading narrative texts compared to expository texts. This is because younger students who have been read to on a regular basis often develop a sense of narrative text structure. This can positively affect their comprehension when they begin to read on their own. Narrative text is structured around a goal or problem. In contrast, disciplines such as science and social studies have multiple text structures: description, sequence, cause-effect, problem-solution, and compare-contrast. They also deal with unfamiliar concepts, such as the continental drift theory and the fall of the Roman Empire. These elements make expository texts more difficult to comprehend than narratives. A student may have one grade level for narrative text and a much lower one for expository material.

Which level best estimates the overall reading ability of the student? Because reading a familiar narrative is generally easier than reading expository and unfamiliar text, the familiar narrative level probably represents a reader's highest instructional level. Once a reading level based on narrative text is determined, the assessment process often ends. This is unfortunate because understanding the structure of a narrative seldom transfers to expository texts. Furthermore, ending an assessment session without determining a level for expository material does not help struggling readers in grades 4 and above who encounter expository texts in their classrooms on a regular basis.

We believe that especially for students in grades 4 and above, assessment is not complete without determining a level for expository text. When choosing expository passages to administer, select materials one or two levels below the student's narrative level.

Mode of Reading: Oral and Silent

Whether a student reads orally or silently is another factor that can affect comprehension. Younger and less-fluent readers generally comprehend more when they read orally, which can impact performance. Older readers are more used to silent reading and are often self-conscious when reading orally, which can impact performance.

Questions: Literal and Inferential

The type of questions asked after reading also influences reading level. Higher-level inference questions are generally more difficult than explicit literal questions. Inference questions ask readers to think about sections of the text and draw conclusions from it; the answer is not explicitly stated in the text. Because the ability to draw inferences is critical for comprehension, questions for determining reading level in *QRI-7* contain both explicit (literal) and inferential questions.

Look-Backs

Can a student find the correct answer to a question if he or she is allowed to look back in the text? Skilled readers often engage in looking back to find answers to questions or to clarify their comprehension. Scoring questions without allowing a student to look back may underestimate a student's comprehension, especially in text that is about an unfamiliar topic. For each passage at or above a third-grade level, the *QRI-7* provides a summary table for scoring the number of explicit and implicit questions that are answered with or without look-backs.

Pearson eText Application Exercise 4.3: Using Questions with/without Look-Backs to Determine Reading Level

FINDING AN INSTRUCTIONAL READING LEVEL

Use the following tools and methods to help determine the instructional reading level for a particular student.

Order of Administration

As mentioned previously, an instructional reading level is determined by two factors:

- the number of oral reading errors (often called miscues) and
- the number of correct answers to questions.

You can count errors/miscues in one of two ways. Count all miscues and use this total to determine the student's level. We call this *Total Accuracy.* (See Section 6). You can also only count miscues that change meaning. We call this *Total Acceptability*. (See Section 6). The number of questions that the student answers correctly determines the comprehension level (See Section 7).

If the student scores within the independent or instructional range on the first passage, choose another passage at the next higher level. Continue moving upward until the student reaches a frustration level. If the student reaches a frustration level on the first passage, move downward until the student reaches an instructional level. There may be times when you may not choose to find the highest instructional level. For example, if the student's instructional level is the same as his/her actual grade level, determining levels above grade placement or ascertaining the exact frustration level may have little value. Figure 4.5 provides a basic order for administering the QRI word lists and passages.

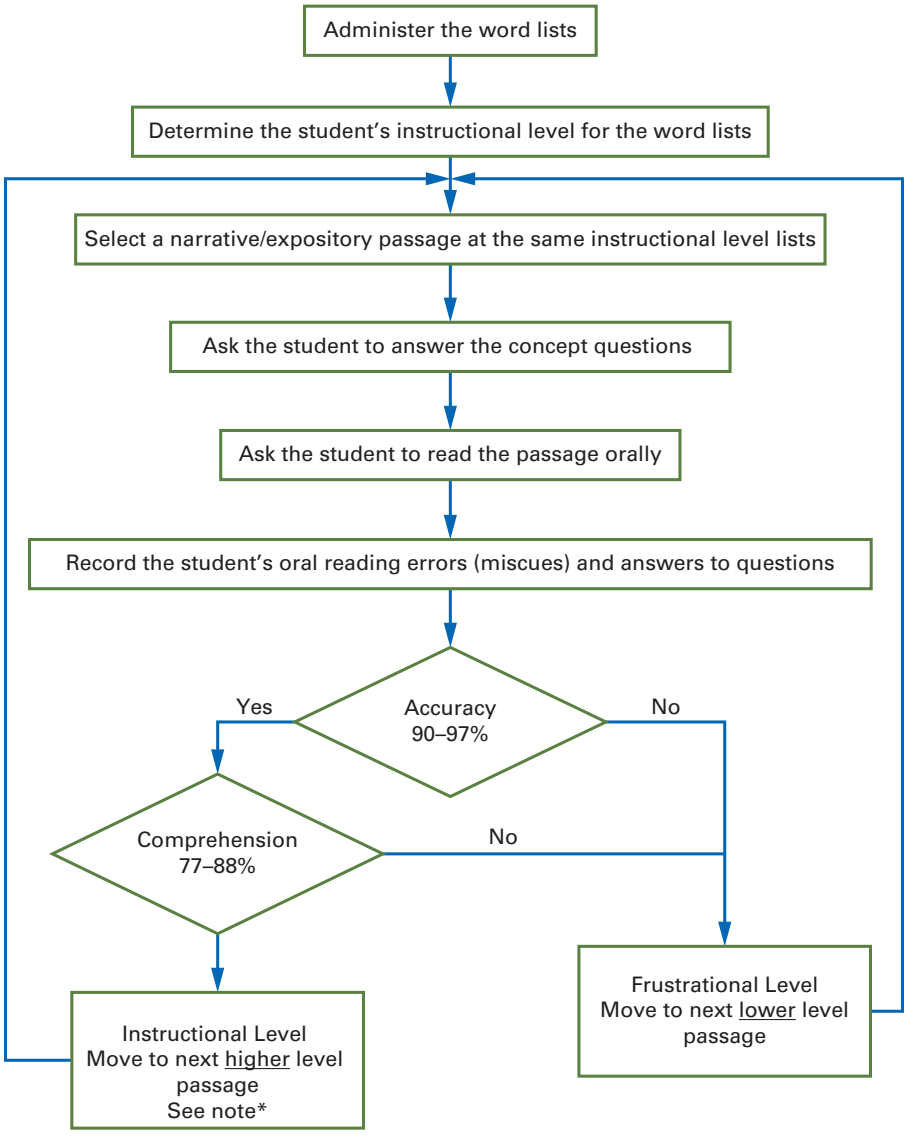
Figure 4.5 Order of Administration

Word Lists	Start with list	Find highest list	End with list
	2 levels below grade level	Student reads with 90% accuracy	Student reads at or below 50% of words
Passages	**Start with passage**	**Find highest passage**	**End with passage**
	At highest level where student read 90% of words on word list	Student reads with 90% accuracy and correctly answers 70% + of comprehension questions	Student reads less than 90% accuracy or correctly answers less than 70% of comprehension questions

Finding an Instructional Reading Level for Narrative and Expository Text

As mentioned before, determining a student's reading level for expository text is important, especially for students in fourth grade and above. Expository passages are generally unfamiliar in both content and structure, and a student's performance often falls below his or her instructional level for narrative material. When assessing reading levels for expository text, initial passages should be one or two levels below a student's instructional level for narratives. Figure 4.6 provides a complete flow chart for using *QRI-7* to find an instructional level for both narrative and expository text (See Figure 4.6 on next page).

Figure 4.6 Finding an Instructional Reading Level for Narrative and Expository Text



Note: *If the examiner wants the highest instructional level, go to the next highest level. If the examiner only wants to know if the student can read grade level text, then STOP.

Disclaimer: Do not assume the student's level in narrative text will translate to expository text.

Using Scores to Determine Passage Level

Once you have the word identification and comprehension levels, you can determine the total passage level. This is represented by the lower of the two scores. For example, if word identification is at an independent level and comprehension is at an instructional level, then the total passage level is instructional. Similarly, if word identification is at an instructional level and comprehension is at a frustration level, total passage level is frustration. If the student reads silently, determine the total passage level by the comprehension score alone. Figure 4.7 provides guidelines for determining total passage level based on the two scores (See Figure 4.7 below).

Figure 4.7 Guidelines for Determining Total Passage Level

IF	Word Identification Performance =	AND	Comprehension Performance =	THEN	Total Passage Level =
	Independent		Independent		Independent
	Independent		Instructional		Instructional
	Independent		Frustration		Frustration
	Instructional		Independent		Instructional
	Instructional		Instructional		Instructional
	Instructional		Frustration		Frustration
	Frustration		Independent		Frustration
	Frustration		Instructional		Frustration
	Frustration		Frustration		Frustration

Section 5

Using the Word Lists

Chapter Outline

PURPOSES FOR ADMINISTERING THE WORD LISTS

The three major purposes for administering the word lists are to determine the:

1. student's ability to recognize words quickly;
2. student's ability to identify words that were not recognized quickly;
3. starting point for passage administration.

Estimating Automatic Word Recognition and Word Identification

The word lists provide a quick estimate of the student's word recognition and identification ability. We use the term *word recognition* when the student pronounces a word within one second of seeing it. We use the term *word identification* when the student takes longer than one second to read it or if the student decodes the word. For example, if a student reads the word *song* as *s-ong*, we infer that the student didn't recognize the word immediately and had to use phonetic cues to decode it.

Word Recognition

- Word is pronounced within one second

Word Identification

- Word is pronounced after one second or after the student decodes it

Estimating the Starting Point for Passage Administration

Word list performance may also help you estimate the level of text passage the student should begin reading. This is because words on the lists appear in the passages at the same readability level. If the student has problems with word identification, his or her performance on the word lists will indicate a realistic beginning point for passage administration.

Words in the passages are underlined if they are present on the word list at the same level or the preceding level. This underlining allows you to compare a student's word recognition in the context of reading a passage with his or her reading of the same word on a list. Words occur on more than one word list because they are common/frequent words. For example, in the primer story "Fox and Mouse," several words were underlined that appeared on the primer word list, including *one, went, every, why,* and *said*. This passage also contains common words in the story that appeared on the pre-primer 1 (PP1) and pre-primer 2/3 (PP2/3) word lists, including *help, they,* and *was*. These words occurred in the primer story because they are commonly used in stories read by beginning readers.

Estimating Automaticity of Word Recognition

You can estimate automaticity of word recognition by silently counting "one thousand one" as the student reads each word. If a student reads a word within one second, you can assume that the student has recognized the word automatically without needing to decode it. The more words that a reader identifies automatically, the more likely it is that he or she will fluently read passages at the same level.

Words that are automatically recognized have often been termed *sight vocabulary*. It was once thought that a direct link occurred between the visual aspects of a word and the word meaning. However, research shows that automatic word recognition involves a strong sound component (Ehri, 1992; Ehri, 2014; Miles, Rubin, Gonzalez-Frey, 2018). Therefore, *sight vocabulary* may be a misnomer, and we prefer to use the term *automatic word recognition*. In other words, the term *sight vocabulary* implies that students recognize the word using only visual clues, but research evidence suggests that a strong sound component is part of automatic word recognition.

Key Points About Word Lists

- Words in lists appear in passages that have the same readability level
- Performance on the word lists indicates a beginning level for passage administration
- Performance on the word lists estimates automaticity of word recognition (i.e. sight vocabulary and reading fluency)

Analyzing the Differences Between Word Identification in Isolation and in Context

Typically, students read more accurately in a story than they do on word lists because the sentence context aids in word identification. Beginning readers often rely on context to determine word pronunciation and, at early levels, this can be regarded as a strength (Stanovich, 2004). However, at Level 3 and above, reliance on context for word identification may be evidence of inadequate decoding and/or inadequate automatic word recognition; readers attempt to compensate for such deficiencies by use of context. If the reader identifies many more words in the stories than on the word list, then instruction on identifying common words may be in order. You can determine whether the reader uses context by examining whether the student can identify words in a passage that she or he could not identify on the word list.

Estimating Knowledge of Letter–Sound Matches

All other words that the student reads correctly beyond a one-second limit are probably decoded; that is, the student is matching letters and sounds to identify the word. You can examine correct and incorrect pronunciations to assess the letter–sound matches that the student knows and those that might need emphasis in an intervention program.

Examining Knowledge of Vowel Patterns

The *QRI-7* also provides examiners with the opportunity to examine the student's knowledge and use of 18 frequently used vowel patterns, often called *spelling patterns* or *phonograms* (Beck, 2006; Fry, 1998; Gaskins et al., 1997). A *spelling pattern* is the vowel and the letters that follow it in a syllable. Examples of spelling patterns are *-an* (can, pan, tan), *-ake*, (make, take, lake), *-ook* (look, book, took), and *-at* (cat, fat, hat). If children learn a vowel pattern in one word, they may transfer this knowledge to other words. For example, if a student knows the word "can," the student may use the vowel pattern *-an* to decode "pan." The student must delete the sound represented by the letter "c" from "can" and replace it with the sound represented by the letter "p." This is called *reading by analogy* (Conrad, 2008), and not all readers do this without instruction. Because of the usefulness of reading by analogy, the *QRI-7* offers examiners insight as to whether a student is using this strategy. Teaching students to recognize and use these common patterns is a useful component of phonics instruction.

PROCEDURES FOR ADMINISTERING THE WORD LISTS

Pearson eText Teacher Resource: Window Card Template

1. Give the student the list of words and ask him or her to pronounce them. You may use a window card, which is a 3 × 5-inch card with a section cut out so that only one word on the word list can be seen. Or you can simply hand the list to the student to read at his or her own pace.
2. While the student is reading, record the answers on the accompanying scoring sheet.
3. Mentally count "one thousand one" to differentiate between words identified automatically and those identified after some delay.
4. Mark words identified automatically in the Recognized Automatically column.
5. If the student has not pronounced the word within one second, mark any attempt, correct or otherwise, in the Identified column.

There are several ways to administer the lists. Each may seem awkward at first, but with practice, you will soon find the method with which you are most comfortable.

As you juggle the word lists and the timing, recording the student's answers may seem difficult at first. Until you become more accustomed to timing, listening, and recording all at once, audio-record the entire session. A recording also helps if you are

unsure of how to score a mispronunciation. Asking another individual to listen to the audio and offer input can be very helpful.

Instructions to the Student

Introduce the word lists to the student by saying, "**I have some lists of words that I want you to read one at a time. Some of the words will be easy for you, and some I expect will be very hard. Don't worry. You are not expected to know all of them. If you don't know a word right away, try your best to figure it out. I cannot help you in any way, and I cannot tell you whether you are right or wrong. Just do your very best. Are you ready?**"

Choosing a Starting Point

Whether you are using the word lists to estimate automatic word recognition or to suggest a level for passage administration, you must determine a realistic starting point. To avoid initial frustration, begin with a word list *two or more years below* the student's grade placement. This is especially important if you suspect the student has a serious reading problem. We suggest the following starting points:

Word List Starting Points

Student Grade Level	Beginning Level
1st–3rd	Pre-primer or primer list
4th–5th	2nd- or 3rd-grade list
6th grade and above	4th- or 5th-grade list

It is better to begin too low than to place the student in a frustrating situation immediately. Little time will be lost if the list is too easy, and the initial experience of success may put the student more at ease.

Recording Student Responses: Accuracy and Automaticity

There are two things for you to keep track of while administering these lists:

1. *Accuracy of word identification* is whether the student reads the word correctly. If the student makes an error, write down the phonetic equivalent of the mispronunciation. For example, if the student reads "live" with a long "i" sound, write "līve." If the student changes the word a lot, write the best phonetic equivalent. This information provides an indication of how the student approaches word identification. If a student immediately self-corrects an error, write "SC" and count it as correct. If the student skips a word, write "DK" (doesn't know).
2. *Automaticity of response* refers to whether the student reads a word (correctly or not) within one second. To provide a realistic estimate of one second, you can say mentally, "one thousand one." Record any response begun within one second in the Recognized Automatically column. If the response is correct, put a "C" in the column. Figure 5.1 provides an example of a recorded and scored word list.

Accuracy
- Student reads a word correctly.

Automaticity
- Student reads a word within one second.