

Secondary Literacy

Secondary Literacy

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*Please visit the Resource Exchange on TFANet to access the **Secondary Literacy Toolkit**, which contains sample tools we’ve collected over time that are referenced throughout this text. You can also access many other tools on the Resource Exchange—from a wide range of grade levels and subject areas—which have been developed and shared by our corps members and alumni.*

The Fundamental Importance of Literacy

Introduction

- I. Literacy as Gateway
- II. The Stark Reality: Literacy and the Achievement Gap
- III. Preview of the Secondary Literacy Text

I was shocked that my students reached high school without mastering the basic skills of reading and writing. My first year, the majority of my students read on a third to fifth grade level, and a class could range from pre-primer to ninth grade.

– Bernard Weber, Mississippi Delta '03

Not only did I think I would not have to teach literacy skills to my seventh and eighth grade science students, but I avoided teaching those skills in my first semester. I avoided the science textbook and used demonstrations, labs, and short lectures to help students master the science content. However, when it came time for students to display their knowledge on a mock-standardized test, they fell dramatically short of where their performance in my class had been. Why? I hadn't taught my students how to read scientific information and process it independently. It became obvious that literacy was the key lever in allowing my students to showcase their knowledge and potential.

– Aaron Pomis, North Carolina '02

I. Literacy as Gateway

As Teach For America corps members, alumni, and staff, we are unified by our conviction that all children should have an equal chance in life. As middle school and secondary teachers, one of our greatest opportunities to alter our students' life prospects comes through teaching our students to read, write, and communicate effectively. No single intervention will have as dramatic an effect on a student's future learning and success as will a solid foundation in literacy:

Adolescents entering the adult world in the 21st century will read and write more than at any other time in human history. They will need advanced levels of literacy to perform their jobs, run their households, act as citizens, and conduct their personal lives. They will need literacy to cope with the flood of information they will find everywhere they turn. They will need literacy to feed their imaginations so they can create the world of the future. In a complex and sometimes even dangerous world, their ability to read will be crucial. Continual instruction beyond the early grades is needed.¹

In classrooms studying English, math, science, social studies, art or a foreign language, being able to read and write at the appropriate level is fundamental to gaining a deeper understanding of the subject matter at hand. Quite literally, a student's reading and writing skills are portals to and catalysts for whole worlds of learning. For all of us, regardless of our classroom content or the age of our students, providing targeted reading and writing instruction when students' skills are lagging and continued instruction when students are on grade level is paramount to their success in school and in life.

¹ Moore, David et al. "Adolescent Literacy: A Position Statement." The Commission on Adolescent Literacy of the International Reading Association, March 18, 1999, p. 3.
http://www.reading.org/downloads/positions/ps1036_adolescent.pdf, accessed on 7/1/2010.

Fundamental Importance of Literacy

Contrary to the once commonly held belief that teaching reading and writing is solely the responsibility of elementary teachers and secondary English teachers, educators and researchers across the country now assert that teaching students the skills necessary to make sense of a variety of texts and write for a variety of purposes is a task to which *all* teachers must commit themselves. In fact, the idea that students will arrive at secondary grades ready to read without further training and support is a proven myth, even in the best of school districts. A proficient fifth grade reader will generally remain on a fifth grade reading level unless he or she is consistently taught strategies to effectively access, and gain knowledge from, more difficult and specialized texts. A student who arrives in eighth grade U.S. history a grade level or two behind in reading and writing skills will continue to fall behind—in both literacy and in content area knowledge—because he or she won't be able to comprehend the texts necessary for learning the subject matter. Even the best prepared students need continued instruction in reading and writing during grades six through twelve. As a secondary teacher, you have an opportunity and responsibility to dramatically expand your students' options in life by building upon the foundational skills taught in elementary classrooms, emphasizing reading and writing instruction and practice, and providing targeted, remedial instruction when necessary.

II. The Stark Reality: Literacy and the Achievement Gap

We recognize the fundamental importance of literacy to expanding life opportunities for our students. And at the same time, for those of us teaching secondary students, there is perhaps no more obvious sign of the achievement gap than our students' often lagging literacy skills. In fact, the *absence* of literacy skills in the students we teach is one of the key indicators of the achievement gap in the first place.

While they cannot do justice to the individual students embodying them, the numbers and statistics on this issue are revealing. Approximately 26% of eighth graders and 23% of twelfth graders do not have even partial mastery of the fundamental reading skills expected at their grade levels. Assuming that these rates apply comparably to all middle and high school students, six million students in grades six through twelve are reading below basic levels.² By some estimations, one in four high school students reads at a "below basic" level.³ By another, 20% of adolescents cannot identify the main idea in what they have read, and 95% cannot extend or elaborate on what they read.⁴ In all likelihood, you will teach many of the students who make up these disturbing numbers.

The demographic patterns of these deficiencies support what we know about the achievement gap more generally. Reading problems disproportionately affect African American, Latino and low-income students. Among this group of students, the average ninth grader is performing at only the fifth- or sixth-

I had no idea what it meant to be English teacher. I had to teach kids literature? No problem ... then I was put in a middle school with students who are up to 5 grades behind in reading. I realized I had to teach them literary skills and how to actually read. These literary skills are imperative for our students' success. If they cannot read at grade level, they will struggle in other content areas.

**Heather Haines, Philadelphia '03
Principal, Perspectives Calumet High School**

² Joftus, Scott. "Left Out and Left Behind." Alliance For Excellent Education, 2002.

³ Moore, David et al. "Adolescent Literacy: A Position Statement." The Commission on Adolescent Literacy of the International Reading Association, March 18, 1999.

http://www.reading.org/downloads/positions/ps1036_adolescent.pdf, accessed on 7/1/2010.

⁴ Ibid.

grade level in reading.⁵ And, while high-performing students' reading levels have risen, average-performing students have made no progress over the past ten years. In fact, the lowest-performing readers have become less successful over this same time period.⁶

This long-building crisis has gone largely ignored in our middle and high schools. Although there is increasing focus on the literacy needs of older students, until recently the emphasis on literacy instruction was confined to the elementary campus:

While great attention has been paid to increasing early childhood education opportunities and reaching the national goal of making sure every child can read by third grade, little has been done to confront the real and growing problem: Hundreds of thousands of high school students, particularly in low-income areas, can barely read on the eve of their high school graduation. The problem begins earlier, in our nation's middle schools.⁷

Conventional thought tells us that once students enter middle school, they move from learning to read and write to reading and writing in order to learn. That is, older students are expected to know how to read and write so that in the upper grades those skills become vehicles for mastering new and more challenging concepts. Unfortunately, many of our students enter the secondary grades without the basic foundation of literacy skills that they need to read and write to learn. As a result, they fall farther and farther behind. One study that focused primarily on urban centers makes this point:

A recent report by the Carnegie Corporation of New York found that more than half of the students entering high school in the 35 largest cities in the United States read at the 6th grade level or below. By the middle grades, the majority of students may appear *skillful* in the mechanics of reading but aren't *strategic* enough in their ability to explore and interpret meaning. They often just go through the motions of reading and writing—saying the words or putting the words on paper. As many content-area teachers would attest, more and more of today's middle and high school students abandon reading altogether as a way of learning.⁸

Given the above statistics regarding the achievement gap and its connection to a very real literacy gap, we cannot afford to have the middle and high school students we teach abandon reading as a way of learning and writing as a way of processing and sharing that learning. Literacy's fundamental importance to our quest to close the achievement gap explains why we put special emphasis on teaching literacy at both the elementary and secondary levels at the summer institutes, and why as secondary teachers, you must incorporate reading and writing instruction and practice into your content area courses.

⁵ Balfanz, Robert, James McPartland, and Alta Shaw. "Reconceptualizing Extra Help for High School Students in a High Standards Era." Center for Social Organization of Schools, Johns Hopkins University, Prepared for Office of Vocational and Adult Education, U.S. Department of Education, April 2002.

⁶ National Association of Educational Progress. "Nation's Report Card: Reading 2002." Available online at <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2003521>, accessed on 7/1/2010.

⁷ Joftus, Scott. "Left Out and Left Behind." Alliance For Excellent Education, 2002.

⁸ Vacca, Richard T. "From Efficient Decoders to Strategic Readers." *Educational Leadership*, November 2002, p. 9.

Fundamental Importance of Literacy

III. Preview of the Secondary Literacy Text

The purpose of this text is to introduce you—a new teacher of a particular secondary content area in an under-resourced school, serving students who most likely have lagging reading and writing skills—to the methods and tools used to infuse reading and writing instruction into a secondary classroom. When thinking about reading and writing instruction at the secondary level, there are two main branches on the building-students'-literacy tree. First, the continued instruction in reading and writing that naturally takes place in a secondary English class: exposure to rich and varied vocabulary, learning the finer points of grammar, writing analytical research papers, engaging in class discussions about the themes, plot elements, and characters of recently-read novels. Second, the slightly less natural but equally important literacy instruction in a content area class: learning the more-specialized vocabulary of the subject matter, learning to apply comprehension strategies to informational texts, and engaging in the writing process.

My high school biology students would quickly open their science textbooks to absorb the “cool” images of magnified bacteria, volcanic lava, or foreign species of animals. But, the second we would start reading the textbook, my students felt (and looked) completely lost. My understanding of the importance of teaching literacy skills skyrocketed after the first unit exam I gave produced abysmal results. I was not sure whether my students had not understood the material I had taught or if they had not been able to read the questions on the exam. Literacy skills had to become a part of my biology class if I wanted my students to attain 80% average content mastery on skills at the 10th grade level!

Monica Piquet-Rodriguez, Houston '01
Director, Fantastic Learning Opportunities

As mentioned above, schools, teachers, and researchers have realized not only the opportunity but also the need to focus expressly on reading and writing skills in courses other than English/language arts, instruction that some call “content area literacy.” The need for content area literacy instruction is especially apparent in under-resourced schools, given the often-lagging literacy skills of the students we teach. To give a few quick examples of content area literacy instruction, a social studies teacher can help students master the skill of identifying the main idea and supporting details in a passage. A science teacher can teach students the writing process through explicit instruction on how to write a lab report. A math teacher can build in occasions where students learn the Greek and Latin affixes and roots crucial to understanding math terminology yet, are applicable to other content areas as well.

Through this text, through your literacy sessions this summer, through your ongoing professional development over your two-year commitment and perhaps beyond, you will work toward mastery of a number of research-based approaches and techniques for advancing your students' ability to read and write at the appropriate level, regardless of the secondary content area you teach.

This text will support you as you begin to explore incredibly challenging questions, such as:

- How does an eleventh grade English teacher improve the comprehension skills of students when their...flu-...fluency...is...so...low...that...they...read...word...by...word?
- How does an eighth grade geography teacher introduce vocabulary such as “Mesopotamia,” “Euphrates,” and “Cuneiform”⁹ when students have trouble decoding multi-syllabic words?
- How does a biology teacher help her students comprehend the complicated passages in her textbook—a textbook written for tenth-graders when over half of her students read on a fifth or sixth grade level or below?

⁹ Cuneiform (kyoo' – neh – form') 1. *noun*. An ancient wedge-shaped script used in Mesopotamia and Persia. 2. *adjective*. Wedge-shaped.

Those questions and others will be addressed through the five chapters of this text.

Chapter One will provide an introduction to the world of “secondary literacy.” We will begin by explaining that the skill of reading is one of many layers, as demonstrated in the chart on the right. Those layers include everything from to knowing that we read from left to right (book and print awareness), to knowing the sounds that letters make (the alphabetic principle and phonics), to understanding the meaning of several words strung together (comprehension). Vignettes will illustrate the range of reading and writing deficiencies your students may exhibit, and with each vignette, we’ll discuss the various diagnostic tools you could use to get a clearer understanding of a student’s specific reading problem and to benchmark future growth. This chapter closes with strategies that will help you determine in what ways and to what degree a text is appropriate for your students.

Decoding				Comprehension			
Book and Print Awareness	Phonemic and Phonological Awareness	The Alphabetic Principle and Phonics	Word Recognition	Fluency	Background Knowledge	Vocabulary	Comprehension Strategies

Chapter Two will explore three major threads of reading in which the students we teach are most often behind: word recognition (which involves word and structural analysis and recognizing words with “automaticity”), vocabulary knowledge, and fluency (which is defined as the ability to read words quickly, accurately, and with good expression). We’ll explain what each of these skills involves, discuss how they are foundational to reading comprehension, and share strategies for building students’ proficiency in these areas in both a secondary English class and other content area classes.

Chapter Three will make visible the normally invisible reading comprehension strategies that independent readers subconsciously use to make sense of texts. These strategies include monitoring one’s comprehension, asking questions, making predictions, and summarizing, among others. Classroom vignettes will detail how teachers of all content areas can model the thinking that occurs in good readers’ minds. The explicit modeling of such cognitive strategies, which can be done through any content area reading, is a critical step to moving our students from struggling to independent readers.

Chapter Four digs deeper into comprehension by examining how students can practice applying various comprehension strategies before, during, or after reading. These pre-, during- and post-reading strategies will activate students’ prior knowledge, help them connect their prior knowledge and experiences to the text, identify challenging vocabulary, and provide structures for them to summarize the material – skills that are necessary to reinforce in all secondary classrooms.

Chapter Five, on writing, addresses strategies for giving your students multiple opportunities to write informally, such as in journals, quick writes, and exit slips. Such “writing to learn” strategies deepen and extend comprehension of what students have read, and highlight the integral connection between the reading and writing process. Strategies for implementing the more formal five-step writing process, in both content area and secondary English classes, will also be discussed.

In the **Conclusion**, we peer into a secondary English, math, social studies, and science classroom in order to give you a more complete picture of secondary classrooms where content area instruction is intertwined with explicit instruction in reading and writing skills, and where students’ literacy skills are consequently improving along with their mastery of the content area. We will close with some general principles to keep in mind as you consider how to best meet the literacy needs of your secondary students.

Identifying the Source of Reading Difficulties

Chapter One

- I. What It Means to “Read”
- II. A Snapshot of the Challenges and Root Causes
- III. Determining a Text’s Difficulty

Introduction

Imagine needing to teach the content of a book, novel, or other text that your students have difficulty reading on their own. Can you imagine the challenge entailed?

Now, imagine that you are not imagining things.

Few new secondary teachers avoid the shock that comes from realizing that their textbooks or supplementary readings are out of reach of their students’ literacy skills. Understandably, textbooks mandated by the state or districts usually are designed for students who have on-grade-level reading skills. Unfortunately, as noted in the introduction to this text, many of your students’ literacy skills will not be sufficient to access the information in those texts. As you remember from your own years in junior high and high school, much of your learning about a particular subject matter was learned through reading: reading the textbook either in class or for homework, reading novels and short stories, reading supplementary articles. If students are unable to read and comprehend the key materials of a content area course, their ability to learn the skills and concepts of that subject is severely hampered. In what makes depressingly perfect sense, corps members in secondary placements cite their students’ below-grade-level reading skills as one of the biggest challenges to achieving significant gains with their students.

When teachers begin to work with students with such low skills, many are tempted to throw up their hands and sigh, “these kids just can’t read...how am I supposed to teach them social studies/science/world literature when they can’t read the material?” While the statement may be true—many students even at the secondary level “can’t read”—the phrase could point to a wide variety of different reading-related problems. Reading has several distinct layers that must be pulled apart in order to fully understand (1) what it means to read and (2) the different levels of support we might need to provide for students who are struggling with reading. In this chapter, we’ll unpack what it means to read by looking at several classroom scenarios with students who “can’t read” for a variety of reasons. With each illustrative scenario, we’ll discuss the foundational reading skill (or skills) that the student lacks. Then, because accurate diagnosis of a student’s reading challenges is critical to appropriate instruction and growth in reading ability, we’ll share assessment tools to use when you encounter a student with various reading deficiencies. (Future chapters of this text will discuss the instructional strategies that are necessary to move students forward in their mastery of these key literacy skills.) Finally, we’ll discuss how to determine if a text is at the appropriate level for your students, given your understanding of their literacy levels.

I. What It Means to “Read”

When working with students with lagging literacy skills, many teachers have thought or articulated, “these kids just can’t read!” in a moment of frustration. As we noted in the introduction to this chapter, this statement may not be entirely true: “reading” has several distinct layers of meaning most people

Identifying the Source of Reading Difficulties

lump together, but teachers must learn to separate in order to appropriately instruct their students. At first cut, the ability “to read” is best separated into the following two major buckets:

- Decoding** is the process that readers use to quickly and automatically translate the letters or spelling patterns of written words into speech sounds. Getting to that goal requires many steps. Book and Print Awareness, a critical foundation for decoding, involves understanding the function of print and the characteristics of books and other print materials.¹⁰ The strand of decoding then progresses to skills such as being able to differentiate the /ch/ sound in *chair* from the /tr/ sound in *train* (Phonemic and Phonological Awareness), knowing that the letter *c* makes the /k/ sound when followed by the letter *o* or *a* (The Alphabetic Principal and Phonics), and knowing how to divide and subsequently read multisyllabic words based on an understanding of prefixes, suffixes, and roots (Word Recognition). Most importantly, these skills must all be executed so automatically that little cognitive energy is expended, and students’ minds are free to focus on making meaning of the text.

Decoding					Comprehension		
Book and Print Awareness	Phonemic and Phonological Awareness	The Alphabetic Principle and Phonics	Word Recognition	Fluency	Background Knowledge	Vocabulary	Comprehension Strategies

- Comprehension** is the ability to actively listen to, read, and understand language. To comprehend a text, one’s decoding skills must allow for **fluent** reading (reading that is as smooth and full of expression as when we talk), thus allowing a reader’s cognitive energy to be used to draw connections, ask questions, make predictions, and employ other comprehension strategies used by strong readers. Thus, fluency is often called the “bridge” from decoding to comprehension. In addition to fluency and effective application of comprehension strategies, other key ingredients to comprehension include vocabulary knowledge and background knowledge. Some startling vocabulary statistics to consider:

A high-performing first grader knows about twice as many words as a low-performing one and, as these students go through the grades the differential gets magnified. By 12th grade, the high performer knows about four times as many words as the low performer.¹¹

Given that students need to know about 95 percent of the words in a text to understand it, the connection between word knowledge and comprehension is clear. Background knowledge is critical as well—it “serves as the foundation for all future learning and provides the ‘hooks’ on which students can hang that new learning about a topic.”¹² Background knowledge helps us determine the meaning of words and how words are used in a particular domain (for example, knowing that the word *similar* has a slightly

¹⁰ It is highly unlikely that you, as a secondary teacher, will encounter students who do not know that print represents oral language, or how to hold a book, or that we read from left to right and top to bottom, or that we put spaces between sentences. These are important skills that are taught and modeled to young children, and typically mastered during the early elementary school years. Therefore, we will not discuss this skill in this text.

¹¹ Hirsch, E.D. Jr. “Reading Comprehension Requires Knowledge—of Words and the World.” *American Educator*, Spring 2003. http://www.aft.org/pubs-reports/american_educator/spring2003/AE_SPRNG.pdf, accessed 7/1/2010, p. 16.

¹² Lapp, Diane et al. *Teaching All the Children: Strategies for Developing Literacy in an Urban Setting*. New York: The Guilford Press, 2004, p. 306.

different meaning in math than in everyday usage, or understanding a “Herculean effort” based on familiarity with Greek mythology).

Therefore, when secondary students “can’t read,” what might that mean? We can almost all but rule out a lack of book and print awareness. And, according to *Reading Next: A Vision for Action and Research in Middle and High School Literacy*, “very few...older struggling readers need help to read the words on a page; their most common problem is that they are not able to comprehend what they have read.”¹³ *Reading Next* also agrees that fluency is critical: “For some [struggling older readers], the problem is that they do not yet read words with enough fluency to facilitate comprehension.”¹⁴ Going up a layer in what it means to read, *Reading Next* also cites struggles beyond fluency:

Others can read accurately and quickly enough for comprehension to take place, but they lack the strategies to help them comprehend what they read. Such strategies include the ability to grasp the gist of a text, to notice and repair misinterpretations, and to change tactics based on the purposes of reading. Other struggling readers may have learned these strategies but have difficulty using them because they have only practiced using them with a limited range of texts and in a limited range of circumstances. Specifically, they may not be able to generalize their strategies to content-area literacy tasks and lack instruction in and knowledge of strategies specific to particular subject areas, such as math, science, or history.¹⁵

Thus, when you have secondary students who “can’t read,” many are likely struggling due to limited background knowledge, poor vocabulary, or lack of practice in applying active reading strategies to make sense of the text, as opposed to struggling with actually decoding the words on a page. However, while *Reading Next* reports that, “only 10 percent of students struggle with decoding,”¹⁶ given the disproportionate number of students in our classrooms that have low literacy skills, you may find more than 10 percent of your students struggling with some aspect of decoding in your classroom. Most likely, those students will struggle with decoding at the word recognition level. Therefore, it will be important for you—even as a secondary content area teacher—to know how to build various decoding and word recognition skills with your students.

Now that we’ve unpacked the skill of reading, what does it sound like when secondary students “can’t read?” Let’s peer into a few classrooms to explore the literacy challenges you may need to address with your students so they can master the learning goals of your content area *and* grow in their literacy skills.

II. A Snapshot of the Challenges and Root Causes

In each section, we’ll share a vignette that demonstrates a particular reading challenge, consider various root causes, and share appropriate diagnostic tools or strategies to better isolate the challenge at hand.

¹³ Biancarosa, G. and C.E. Snow. *Reading Next—A Vision for Action and Research in Middle and High School Literacy: A Report to Carnegie Corporation of New York*. Washington, DC: Alliance for Excellent Education, 2004. <http://www.all4ed.org/publications/ReadingNext/ReadingNext.pdf>, accessed 7/1/2010, p. 3.

¹⁴ Ibid p. 8.

¹⁵ Ibid p. 8.

¹⁶ Ibid p. 11.

Identifying the Source of Reading Difficulties

7th Grade English

1. **Vignette.** Consider the following dialogue between a teacher and her seventh grade student.¹⁷

Student: Mrs. Edwards? What's this word? [Pointing to *concerned*.]

Mrs. Edwards: Did you sound it out, George?

George: [Long pause.] No.

Mrs. Edwards: Well, there you go. You need to sound it out.

George: Sound out what?

Mrs. Edwards: The word. Sound out the word.

George: Huh?

Mrs. Edwards: Go slowly and sound out each syllable.

George: [Looking at the word closely.] Okay. [Long pause.] Well. How do I sound it out if I can't read it?

Mrs. Edwards: No, you can sound it out so you *can* read it.

George: Huh?

Mrs. Edwards: Like this. [Points to each syllable in the word.] /Kun/ /Sernd/.

George: Oh, ok. [In a not very convincing tone.]

2. **Root Cause.** Looking back at the literacy graphic on page eight, would you place George's major challenges in the decoding bucket or the comprehension bucket? That's right, decoding. But what specific aspect of decoding, given its many layers? While we don't know with the information provided in the dialogue, it could be one of the following:

- **Phonological Awareness**, or the understanding that spoken language is composed of units of speech, such as words, syllables, rhymes, onsets (the initial consonant sound of a syllable; **b-** in **bag**, **sw-** in **swim**) and rimes (part of the syllable that contains the vowel and all that follows it; **-ag** in **bag**, **-im** in **swim**). **Phonemic Awareness**, a subset of phonological awareness, is the understanding that words are made up of individual sounds, and the ability to identify those sounds. Neither skill requires knowledge of print.
- **The Alphabetic Principle and Phonics** involves understanding the relationship between spoken sounds and written letters, such as knowing that the letter "p" makes the /p/ sound and knowing how to write that letter as part of the word "pat."
- From the information provided in the vignette, George's **Word Recognition** skills seem weak, since he doesn't automatically recognize the word. He also seems unable to visually break the word down into familiar parts, by recognizing /con/, /cern/, or the /ed/ ending.

3. **Diagnostic Tools.** How do we, as secondary teachers with perhaps 149 other students, determine the specific problem of a student similar to George?

- If you can carve out time for an individual diagnostic before school, after school, or during lunch, you might give the student a Phonological Assessment, similar to one an elementary teacher would give his or her students. (You will have access to a Phonological Assessment, found in CORE's *Assessing Reading: Multiple Measures*, at the summer institute and in your regional offices.) This assessment would give you insight into where the student's specific problems lie: can the student hear and count the syllables in a word, identify and count various sounds in a word, and identify words that rhyme and don't rhyme? However, lack of phonological and phonemic awareness is probably not the issue for George, and will be for very few secondary students unless they have an auditory processing

¹⁷ Modified from Beers, Kylee. *When Kids Can't Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 11-12.

disability. If Mrs. Edwards read the word out loud and asked him to identify the sound that *concerned* started with, he could probably say /k/. If she probed, “how many syllables are in the word *concerned*?” George would probably repeat, “Con-cerned. Two syllables.” If she asked him if the word *concerned* rhymed with *learned*, he would probably respond in the affirmative. These are all skills typically learned in Kindergarten through second grade.

- If poor phonological awareness can be ruled out with a quick conversation, you might adjust your schedule to individually administer a Phonics Survey. This assessment asks a student to identify letters in the alphabet, tell the various sounds made by each consonant and vowel, and read from a list of real and pseudo words, such as *sip* and *vop* to see if they can read words with short vowel sounds, and *lute* and *joad* to identify long vowel spellings. (Again, you will have access to such an assessment through CORE’s *Assessing Reading: Multiple Measures*.) However, such a formal survey may not be necessary; taking a few minutes to do the following can provide key insights into a student’s phonics skills and help you determine if a more comprehensive phonics diagnostic is necessary:

Spend some time...asking them to name the letters (graphemes) in specific words. [So you might point to the letters in *concerned* and ask the student to name the letters in the word.] Ask them to identify what sounds those letters make. [What sound does *n* make? What sound does *c* make? Does *c* make another sound?] You’re listening to hear what letter-sound correspondence each student has...You can also show them consonant digraphs such as *sh*, *ph*, or *th* and blends such as *tr*, *st*, or *bl* and ask students to tell you what sounds those pairs of letters make. You can show them vowel teams such as *ai* or *ee* and ask them what sound the vowels would make. Put these letter combinations into the context of a word. [Look at this word (*meet*). What sound do the two *e*’s make in this word? Can you read the whole word for me? What about *mail*?]¹⁸

Note for Content Area Teachers

When you become aware of students’ reading deficiencies, your first step should be to check with their English/Language Arts teacher to see if he or she has a clearer picture of the students’ specific literacy strengths and weaknesses. He or she may have already administered some of these formal, time-intensive diagnostics. If not, you might want to turn to the results of the various standardized tests your students have taken in the past years, which are typically housed in the school’s guidance department. The breadth and depth of the information in reading standardized test data varies from state to state and district to district, but many content area teachers find that the information does help to quantify the specific weaknesses in literacy skills. However, sometimes it will be up to you, a content area teacher who needs to help students access the material of your course, to diagnose students’ various literacy skills. As these vignettes hopefully illustrate, quick conversations can often ascertain the appropriate starting point for the administration of a more formal diagnostic.

- Another easy-to-administer assessment for a student with George’s symptoms is a Qualitative Spelling Inventory, where you give students a series of progressively more challenging words (meaning you begin with single-syllable, short vowel words like *bed* and progress to two syllable words with unusual spelling patterns like *hoping* and *squirrel*) and compare their spellings to the stages of spelling development. Analyzing a student’s spelling, in particular the mistakes he or she makes, will shed light on his or her knowledge of sound-symbol correspondence. This sort of assessment can also be easily administered on a class-wide level, and used by secondary teachers to get a general sense of all of their students’ phonics skills and their understanding of letter-sound relationships. For a sample Qualitative Spelling Inventory, see the **Secondary Literacy Toolkit** (p. 1) found online at the Resource Exchange on TFA.net. ✖ Another is contained in CORE’s *Assessing Reading: Multiple Measures*.

¹⁸ Beers, Kylene. *When Kids Can’t Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 233.

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- Finally, you should ask a student with reading difficulties like George to read from a Word List, which contains short lists of progressively more challenging words. When a student says a word incorrectly or skips it, the teacher records that as a “miscall.” By noting the grade level of the word list where a student begins to have a critical mass of miscalls (different tests have different definitions of that “critical mass,” most say to stop when a student reads five words for a grade level incorrectly), the teacher can approximate the grade level of the student’s word recognition abilities. Sample Word Lists are available in the **Secondary Literacy Toolkit** (p. 2); this Toolkit can be found online at the Resource Exchange on TFA.Net. Another sample, called the *San Diego Quick*, is contained in CORE’s *Assessing Reading: Multiple Measures*. ✖

Willie Taylor’s reading diagnostic indicated that he was reading on a second grade level in an eleventh grade English class. So, during class I pulled him aside and had him read a short passage aloud. Listening to him read, his inability to decode certain words became apparent and I requested that he spend extra time with me before and after school during the week. During these times, we created sound charts that he could use when he read and found books that were appropriate for his reading level. By the midpoint of the year, he had already raised his reading level from a 2.0 to a 3.5.

**Matt Kelley, Mississippi Delta ’02
9th Grade Literature Teacher**

If any of these diagnostics reveal that a secondary student can’t identify sounds in spoken words or recognize letters and identify the sounds those letters make, he or she probably needs specialized help. You may consider speaking to the special education teacher at your school for guidance about how to provide this student the remediation he or she needs. Students with weak word recognition skills, which could be determined by having them read from a Word List, are not uncommon in upper grades. Chapter Two will discuss strategies for improving students’ word recognition.

9th Grade Literature

1. Vignette. Kylene Beers, author of *When Kids Can’t Read, What Teachers Can Do*, shares the following transcript from a ninth grade student’s oral reading of the opening lines of “The Gift of the Magi” by O. Henry, a short story commonly found in high school literature anthologies. (You may recall the story: Della sells her long brown locks to buy Jim a chain for his prized watch, he sells his watch to buy Della a set of coveted hair combs. Ah, the irony.) First, read the opening lines yourself:

One dollar and eighty-seven cents. That was all. And sixty cents of it was in pennies. Pennies saved one and two at a time by bulldozing the grocer and the vegetable man and the butcher until one’s cheeks burned with the silent imputation of parsimony.¹⁹

Now, read the stumbling—yet real—transcript from Beers’ student. His reading is in italics:

On-one d-d-do-l-l-ar and, and eight-eighty-sev-eighty-seven c-ents. Th-that w-was all.
One dollar and eighty- seven cents. That was all.

And eight-six and six cents of it was in pen-pens pens saved One, one twi-two at a
And sixty cents of it was in pennies. Pennies saved one and two at a

time. By b-b-bull, bulldozers, by the bulldozers the gro-groc-er and the
time by bulldozing the grocer and the

¹⁹ http://www.online-literature.com/o_henry/1014/, accessed 7/1/2010.

veg-vegetar-veternarian man and the but-cher, butcher man until one, one check, one check
 vegetable man and the butcher until one’s cheeks

got burned, burned up, with the si-slice im-impo-impossible...of par-parts-pars-i-my.
 Burned with the silent imputation of parsimony...

When asked what these first four sentences were about, he responded:

I don’t know. [Pause.] I guess, somebody, [pause] there was like a bulldozer, and somebody’s check, the check it got burned up, into parts. [Pause.] I don’t know. [Long pause.] You know I can’t read this stuff.²⁰

2. Root causes. How would you diagnose this student’s root problem? That’s right, we’re still in decoding, but his halting reading probably made you think about word recognition and fluency as well.

- This student has **weak phonics skills**. If you analyze his transcript, you will note that he especially has trouble decoding multisyllabic words. How did a ninth grade student come to read at this level of deficiency? Most likely, he has constantly been given texts that are too hard for him. Without enough practice reading words he can easily decode, so that those words move into his automatic word bank, he will never build his word recognition and corresponding fluency.
- Therefore, his automatic **word recognition skills are also extremely weak**. When faced with words he couldn’t immediately identify on sight, he would sound out one letter or one syllable at a time. Several times, he identifies the opening sounds of the word, but then guesses at the rest (*veg-vegetar-veternarian* for *vegetable*, *si-slice* for *silent*).
- His weak phonics skills and word recognition skills lead him to have **poor fluency**, which is defined as the ability to read words quickly, accurately, and with good expression. Fluency, as you’ll recall, is key to comprehension, as it allows one’s mind to focus on making meaning of the text, rather than being preoccupied with decoding the words on the page.

Many struggling readers have failed more often than they have succeeded in the past, so now they figured, “Why try?”

Shannon Dingle, RGV ‘03

3. Diagnostic Tools. If you encounter a student with reading deficiencies similar to the student above, there are several diagnostics you might administer:

- A **Phonics Assessment** and/or a **Qualitative Spelling Inventory**, as explained above, would create a detailed picture of this student’s basic decoding skills and understanding of sound-syllable correspondence.
- Asking the student to read from a **Sample Word List**, also mentioned earlier, would help you determine the grade level of this student’s word recognition skills.
- Finally, to measure this student’s fluency (also called oral reading rate), you would conduct a Timed Reading Exercise with a text on this student’s **independent reading level**. Let’s define this important term:

²⁰ Beers, Kylene. *When Kids Can’t Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 29.

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- **Independent Level.** If a text is on students' independent level of reading, they will find fewer than one in twenty words (5%) difficult to decode or understand the meaning of. To roughly determine if a text is at a students' independent level, some teachers use the "five finger rule", where the student is asked (and taught, so he can use this method to choose texts he reads on his own) to read an approximately 100-word passage and put up a finger every time he comes across a word he can't read. If he puts up fewer than five fingers, the text is at his independent level and he will be able to read it and comprehend it without assistance from the teacher; the process of doing so will also build his fluency, due to the repeated exposure to words he already knows.
- **Instructional Level.** When students recognize 90 - 95% of the words in a text (so 5 - 10 fingers go up) the text is at their instructional level. In that range, we know that students, with support from the teacher, will expand their vocabulary and will be able to comprehend the text. A text at students' instructional level is a perfect text to be read with teacher support and instruction in word recognition, vocabulary, and comprehension strategies.
- **Frustrational Level.** If a student has difficulty with the pronunciation or meaning of more than two out of every twenty words in the text (so recognize fewer than 90% of the words), that student is reading at a "frustration level." This delineation and definition is important because we know that students who are constantly reading at their frustration level have significant trouble understanding the reading and usually lose motivation to continue reading. If students are experiencing this rate of error, the teacher probably needs to shift to a more manageable text.

Obviously, the passage from the *Gift of the Magi* is at our example student's frustrational level; in a passage of only 45 words, he stumbles over the vast majority of them. To measure his fluency level accurately, you would need to find a text on his independent reading level—which you could pinpoint more easily using the results of a Word List assessment or by applying the "five finger rule"—and then you would conduct a Timed Reading Exercise. At the elementary school level, such an assessment is commonly used to track students' "oral reading rates." Though reading rates can vary according to texts (even a skilled adult reader may need to slow her reading rate significantly if she is reading an entirely unfamiliar text such as a passage from an aerospace engineering textbook), we have a good sense of the speed students should be able to read at each grade level. The chart below outlines targeted reading rate norms for students in grades one through eight when they are reading texts on their independent level.²¹

Grade	Fall Oral Reading Rates (words correct per minute)	Winter Oral Reading Rates (words correct per minute)	Spring Oral Reading Rates (words correct per minute)
1		10 - 30	30 - 60
2	30 - 60	50 - 80	70 - 100
3	50 - 90	70 - 100	80 - 110
4	70 - 110	80 - 120	100 - 140
5	80 - 120	100 - 140	110 - 150
6	135 - 160		
7	140 - 175		
8	150 - 180 ²²		
Adult	Adult readers typically read more than 300 words per minute. ²³		

²¹ Grade 1 - 5 information adapted from Rasinski, Timothy. *Assessing Reading Fluency* by Timothy V. Rasinski, www.prel.org/products/re_/assessing-fluency.htm, accessed on 7/1/2010.

²² Grade 6 - 8 information adapted from "Fluency Chart for Reading." *New England Common Assessment Program Reading Grade-Level Expectations*. http://www.conval.edu/sup_corner/curriculum/la_curr/fluency.htm.

A Timed Reading Exercise is relatively easy to administer.

1. First, **choose a text or passage on the student's independent level** with at least 200 words.
2. Before you begin, **give the student a quick overview** of the passage and explain what you are asking her to do. *"Taylor, we're going to spend about 5 minutes measuring your reading fluency – remember that means how well you can read like you talk. We're working on improving your reading fluency because if you have good fluency, your brain has the space to understand what you read. The passage you're going to read today is about the Gold Rush, one of the factors that caused westward expansion in the United States. Please begin reading it at a rate that is comfortable for you. If you make a mistake, you can correct yourself. If you come to a word you don't know, try to figure it out on your own. Does that sound ok? Alright, go ahead."*
3. Decide how many minutes you want the student to read (between one and five minutes). At the appointed time, stop the student. Tally the total number of words read (correct or incorrect) and divide it by the number of minutes. This result is their **oral reading rate**, in words per minute, for the text that they read. Compare the results to the above chart.
4. You might also rate the **students' overall fluency/prosody** by placing students into one of three levels:
 - a. Level 1: student reads a word at a time in a halting manner, often has to sound out words, and reads without expression or attention to punctuation.
 - b. Level 2: reads with some expression and attention to punctuation, may stop to sound out some words or repeat words.
 - c. Level 3: reads smoothly with good expression, phrasing, and attention to punctuation; any repetition of words is to self-correct mistakes (which are generally rare).²⁴

Some teachers continue to flesh out a student's reading level, specifically the errors (also called "miscues") that students make by conducting a **Running Record**.

1. As the student reads, follow along on your own copy and **take note of all miscues**. For example, if the student self-corrects (student says "Manifest Destined...no, Destiny"), that should be noted. If the student inserts a word that isn't there (text says "panned for gold" and student says "panned for lots of gold"), note that miscue. If a student omits a word (text says "endured many hardships" and student says "endured hardships"), note that. If the student starts to sound out a word but struggles, wait about three seconds, and either tell the student the word (noting that) or tell the student to skip it (noting that). To help you understand this process, you might want to refer to the **Secondary Literacy Toolkit** (pp. 3-4; a student's "Sample Running Record"); this Toolkit can be found online at the Resource Exchange on TFANet. ✖
2. This analysis would allow you to see where a student's decoding and fluency breaks down – does she struggle with multisyllabic words? If so, does she simply articulate the initial sound and then substitute another word that starts with the same sound? Can she read the first syllable of most words?
3. A running record also allows you to **confirm the level of a text** for the student (independent, instructional, or frustrational). To do that, count the total number of miscues. Divide that number by the total number of words read: for example, 10 miscues in 200 words is a 5% miscue rate. Subtract that rate from 100% accuracy, and you have 95% accuracy, which means it is on the student's independent level.²⁵

²³ Moats, Louisa C. "When Older Students Can't Read." *Educational Leadership* (March 2001): 36-40.
http://www.cdl.org/resource-library/articles/older_read.php, accessed 7/1/2010.

²⁴ Modified from Beers, Kylene. *When Kids Can't Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 211.

²⁵ Ibid.

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Strategies for improving word recognition and increasing fluency will be discussed in chapter two.

High School Physics

1. Vignette. In *Subjects Matter*, authors Harvey Daniels and Steve Zemelman describe their interaction with students in a freshman physics class, where students are solving real-world problems that involve the relationship $rate = distance/time$ and its various permutations. One problem describes a peregrine falcon that dives for a poor, earth-bound rabbit 100 meters below. The problem asks students to answer the following question: if the rabbit notices the falcon when it begins its 100 meter dive to grab it for dinner, how much time does the rabbit have to hop away and save itself? The following dialogue ensued with many students:²⁶

Student: I need some help!

Steve: So, what do you think is going on in this problem?

Student: I don't know.

Steve (*searching to see what the student does and does not understand*): Well, what's the scene? What does the problem say is happening here?

Student: Silence.

Steven: Ok, let's read it aloud. You start.

Student reads the problem out loud, at a decent pace and only stumbling over the word peregrine.

Steve: So now tell me what is happening in this situation?

Student: Well, there's a bird, a...per...per...*(struggles with the pronunciation of peregrine and then just skips over it)* falcon.

Steve: That's right, there is a peregrine falcon. That is a type of falcon that is particularly known for its swift flying speed. And what is the peregrine falcon doing?

Student: Well...it says right here he's diving.

Steve: *(suspecting the student doesn't understand the concept of a falcon diving for its prey)* Ok, can you describe what is happening in your own words?

Student: Well, he wants to eat the rabbit, but I don't really get how he is going to catch it.

2. Root causes. You probably placed this student's challenge on the comprehension side of reading, and you're correct. There are several comprehension pieces that are lacking.

- **Background knowledge and vocabulary.** The student is lacking the necessary background knowledge to understand the word problem. She has little familiarity with a falcon diving for its prey. The vocabulary trips her up too. She doesn't know what a peregrine falcon is, which isn't critical to understanding the problem and determining how to solve it, but she really has no understanding of the verb "dive" in this context. All of these factors combine to produce an entirely muddled picture in her mind.
- **Inability to apply comprehension strategies.** This student, once she had the appropriate background knowledge (which could come simply by having the teacher explain the scene between the falcon and rabbit), would probably visualize the math problem in her head, or draw a picture that would help her solve it. That is what many of us automatically did when we first read about the problem above: we visualized a falcon swooping down towards a trembling rabbit below, talons extended, to grab the rabbit by the scruff of its neck and swoop away. We can do this because we've seen this on a nature documentary, or we've seen it in real life. Visualization is a key comprehension strategy that helps us solve this particular problem (other comprehension strategies include asking questions, making

²⁶ Modified from Daniels, Harvey and Steven Zemelman. *Subjects Matter: Every Teacher's Guide to Content-Area Reading*. Portsmouth, NH: Heinemann, 2004, p. 233.

connections, making predictions, inferring, and summarizing, and will be discussed in more detail in chapters three and four), and this student isn't able—nor perhaps has she been taught—to utilize this strategy.

3. Diagnostic tools. While vocabulary diagnostics exist, as a secondary teacher you can almost assume that the students you teach will have a more limited vocabulary than is typical of their peers in higher-income communities, especially of the more specialized words in your content area. Consequently, you can go straight to implementing strategies that will improve students' vocabulary knowledge, which we discuss in chapter two. Similarly, no diagnostic exists for assessing students' background and general "world" knowledge, but you should constantly be building and activating their background knowledge through various pre-reading activities, which are discussed in chapter four. However, there are a variety of ways to assess a student's overall comprehension skills.

- **Comprehension Retell Assessment.** As the name implies, this assessment requires a student to retell a story he or she reads to the teacher. By recording what aspects of the story the child recognizes and retells, the teacher establishes a picture of the student's comprehension skills. For an example, see the **Secondary Literacy Toolkit** (pp. 5-7: "Sample Comprehension Retell Assessment"), which can be found online at the Resource Exchange on TFA.Net.

✖ However, you could conduct a comprehension retell with a passage specific to your course as well. When a Comprehension Retell Assessment is done as part of a Qualitative Reading Inventory, or QRI, the teacher can measure a variety of skills—such as reading comprehension, fluency, and accuracy—to determine a students' general literacy level. There are multiple specific procedures for this type of assessment, and multiple published versions, but QRIs often involve a student reading a graded text out loud while the teacher records speed and accuracy; after the reading, the student responds to comprehension questions posed by the teacher. Typically, a QRI requires 30-45 minutes to administer to an individual student.

- **Reading Habits Checklist.** Another relatively simple approach to assessing your students' use of comprehension strategies is through a "reading habits checklist." This is a table with characteristics of strong readers (discussed more in chapter three) that you can keep on a clipboard and fill out through informal observations and evaluations over a period of time. The students' reading strengths and weaknesses begin to emerge as patterns on the grid.

I use several diagnostics in combination with each other—principally, the SRI (Scholastic Reading Inventory), a computerized test that gives a quick-and-dirty look at the approximate level of each student, and the QRI (Qualitative Reading Inventory). The QRI gives an amazingly in-depth look at each student's "level" with varying levels of texts and knowledge backgrounds. It takes a while to administer (about 45 minutes a kid) but is the BEST use of time. It gives a wealth of information: students' issues with fluency, phonics, comprehension, texts of different genres. Once I administer the QRI and know where all the students are at, I form guided reading groups and make instructional plans for each student for the year.

**Beth Napleton, New York City '00
Senior Managing Director of Institute,
Los Angeles
Teach For America**

The above diagnostics, when necessary to administer in a secondary content area classroom, will show you the type and intensity of literacy instruction you need to infuse into your instruction. The diagnostic results will also serve as a valuable baseline to which you can compare your students' literacy progress later in the year. While the wide range of student reading abilities found in a given class of students may be shocking, unsettling, and initially overwhelming, much more disturbing is the prospect of attempting to teach students the learning goals of your content area—which will require students to read—without

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even knowing that this variance exists. If you carefully diagnose students' literacy skills at the beginning of the year, or when a problem becomes evident as an individual student reads aloud, you will be able to begin thinking about how to best differentiate instruction so as to maximize the academic gains of all students.

In addition to knowing the reading strengths and weaknesses of your students, it is also extremely helpful to know the reading level for which a text is designed, which is the subject of the next section.

III. Determining a Text's Difficulty

One of the common characteristics of teachers who effectively teach literacy in their content area is an ability to judge the relative demands of a text and adjust their instruction appropriately. These teachers can read a text and recognize what aspects of the reading are going to be difficult for their students, based on their knowledge of students' decoding and comprehension skills. Often, this judgment is used to decide not whether to use a text (unless the discrepancy between students' reading level and the text level is too vast), but what types of instructional methods and support should be used while teaching a text. That is, the accessibility of a text depends not only on students' literacy skills but also on the types of comprehension support that the teacher provides before, during or after students read, strategies that will be addressed in future chapters. Here, we will focus on what savvy teachers look for in texts as they assess a text's difficulty.

Qualitative Variables of Text Difficulty

Although your students may disagree, a content area text is not simply "too hard" for a student to read. When previewing a text to determine its appropriateness for building student understanding about a topic, there are several more qualitative characteristics that could make it "too hard" (or, "too easy") for students. Consider some of the factors that you will need to weigh to determine whether or not to use a text, and what support to provide before, during, and after reading it:

- **Vocabulary.** As you are already aware, texts containing many difficult vocabulary words will present problems with comprehension; therefore, it is important to pre-teach the words students will need most to understand a text. Vocabulary instruction is critical for all teachers, as students will encounter new vocabulary in any new math, science, social studies, or language arts unit. We will discuss vocabulary instruction, and how to determine which words to explicitly teach students to prepare them to comprehend a text, in chapter two.
- **Background Knowledge.** As you also read above, reading a selection for which students have little background knowledge also makes comprehending the passage more difficult. Students are much more likely to comprehend what they read if teachers help them connect new information to prior knowledge and experiences, plan ways to build their background knowledge, and increase their understanding of the world. Perhaps, for example, in your Algebra II class, you might read about the St. Louis arch and the formulas that the architect

Someone suggested to me early in my first year that I simply rewrite everything in my 8th grade history textbook into easier worksheets, and forget the books. No wonder my kids' reading levels weren't improving- and they were bored to boot. The harder (but much more rewarding) approach is to just tackle it head-on: teach the vocabulary and the context, and make sure that you take every opportunity to support their comprehension.

Kelly Harris-Perin, Delta '98
Director of Learning and Development
Teach For America

used to design the arch. To optimize students' understanding of the topic, you should be sure that the students know what the St. Louis Arch is by bringing in pictures and discussing its significance.

- **Text Structure.** Long, complex passages that describe a complicated event, elaborate on a concept, or investigate causes and effects can be difficult for students to follow. Students should be taught patterns in the way information is presented in a text—such as long passages that describe the sequential events in a historical battle, or the comparison of two human body systems—so they can locate key information, identify the difference between important and unimportant information, and connect new information with what is already known. If students understand text presentation, they will be able to use the structure to help comprehend and remember what they have read. See chapter four for a fuller explanation of strategies for teaching text structures.
- **Length of Text.** Length can be a formidable obstacle for struggling readers, even if the text is consistent with their reading level. You might need to break the reading up into smaller chunks, providing opportunities to engage in conversation with the class or a partner between each segment. By tackling smaller pieces of reading successfully, students will also gain confidence in their ability to face longer texts.
- **Interest Level.** Not surprisingly, a student's level of interest in a text makes reading more or less difficult; when a student is motivated to read because he is interested in the topic, reading is easier and comprehension is greater. By knowing your students' interests and past experiences (information you might glean from informal conversations with students or by reviewing a student interest inventory) you can review a text and quickly determine if it will spark a flame of interest in students or lead them to sigh with boredom while reading it.

Of course, there is no magic formula that will tell you how to weigh all these various factors together. By asking yourself about the strength of a text for each of these variables, however, you will develop a sense of how students will receive the text and what supplemental activities you can plan to bring the text within students' reach.

Attempts to Quantify Text Difficulty

Many science, math, and social studies textbooks are written at a much higher grade level than their actual audience; knowing the specific level will help you make decisions about how you will use various texts. Various researchers and teachers have attempted to quantify this judgment process. Here we will briefly describe three of the better-known tools that approximate the level of a text's difficulty when only sentence length and word difficulty are considered. The result is an estimation of the grade-level appropriateness of a particular text. These tools do not measure elements of text difficulty such as required background knowledge or interest level.

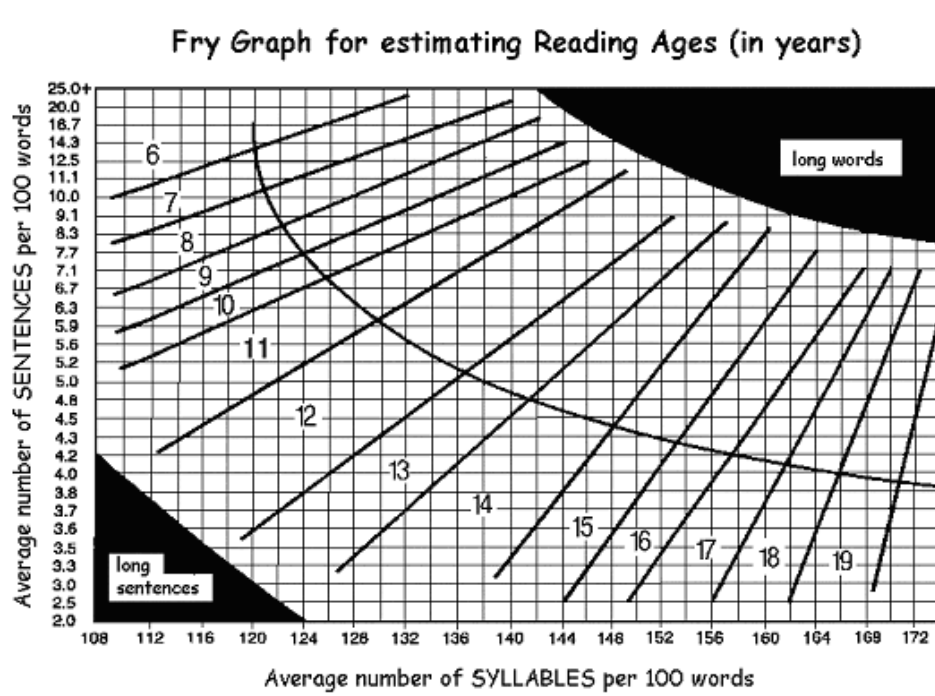
Your Computer. You may be surprised to learn that your computer, if you have a Windows operating system, may be able to give you a rough estimate of the "readability" of your texts in Microsoft Word. Here's how: create a new Word document; go to *Options* in the *Tools* dropdown. Choose the *Spelling and Grammar* tab. Select the box for *Show Readability Statistics*. Type in a passage from the book, highlight it, and choose *Spelling and Grammar* from the *Tools* drop down. After the spell check, a box will pop up that shows a variety of statistics about the passage: the number of sentences per paragraph, the number of words per sentence, the number of characters per word, and the "Flesch-Kincaid Grade Level." This grade level is calculated primarily on the basis of average sentence length and the average number of

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syllables per word, not level of challenging vocabulary or required background knowledge. For example, a Flesch-Kincaid score of 8.0 means that an average eighth grader would be able to understand the text.

Fry Readability Graph. Edward Fry, formerly of the Rutgers University Reading Center, created one of the most widely used readability graphs for educators.²⁷ We will acknowledge up front that the steps required to use this graph take significant time, but they are sometimes necessary to accurately pinpoint the text's reading level. To use the graph,

- Randomly select three 100-word passages from a book or an article.
- Plot the average number of syllables and the average number of sentences per 100 words on the graph to determine the grade level of the material.
- Choose more passages per book if great variability is observed or if you conclude that the book has uneven readability.
- Few books will fall into the solid black area, but when they do, grade level scores are invalid.



Fog Index Score. The Fog Index Score is another challenging but still helpful tool for analyzing the complexity of any particular type of writing. Although a Fog evaluation achieved with this scoring is not absolute (and there can be many variations even within the same text), the Fog method is a good way to *start* an evaluation of the complexity of a piece of writing. Below are the steps to follow:

1. Jot down the number of words in successive sentences in a sample of writing approximately 100 words in length. If the piece is long, you may wish to take several samples of 100 words, spaced evenly throughout the text. Divide the total number of words in the passage by the number of sentences. This gives the average sentence length of the passage.
2. Count the number of words of three syllables or more per 100 words. However, don't count the words (1) that are capitalized; (2) that are combinations of short easy words (like "bookkeeper" and "butterfly"); and (3) that are verb forms made three syllables by adding "-ed" or "-es" (like "created")

²⁷ Fry, Edward. *Elementary Reading Instruction*. New York: McGraw Hill, 1977, p. 217. Online at <http://school.discoveryeducation.com/schrockguide/fry/fry.html>, accessed on 7/1/2010.

or "trespasses"). Divide the exact number of three-syllable words by the exact number of words in the passage. This gives you the percentage of hard words in the passage.

3. To get the Fog Score, add the average sentence length to the percentage of hard words. Multiply by 0.4.

The final number is *approximately* the number of years of education (not counting Kindergarten) needed to easily and quickly completely understand the writing sample.

Again, the qualitative and more quantitative measures of a text's difficulty should primarily help you determine how much support will be necessary to help students comprehend the reading used during instruction. When students are going to read a text independently, and therefore have less support from you, you may need to seek out lower-level texts to build students' fluency and confidence. Sean Flammer (Mississippi Delta '02) teaches high school social studies in an alternative school, and he integrated high-interest, lower-level historical novels into his curriculum for certain students who might otherwise be incapacitated by frustration during independent reading time:

For some of my students, they've gone 10 years without the ability to read a book in class. Reading for them was an embarrassing chore that deflated their self-image and drove them to hate school. Now they can enjoy reading on their own. I've seen a remarkable improvement in their happiness levels and their self-esteem; they now are more confident and well behaved, and they are excited to learn.

Note that it is not enough to simply lower the level of the texts you use in the classroom; to do so would be to surrender the high expectations that we must uphold to improve our students reading skills. Nor is it enough to teach your students enough literacy skills to "get by" in your class. Your goal as a secondary teacher of English or any other content area is to use appropriately challenging texts while simultaneously building students' literacy skills enough to move them to the next stage of reading proficiency. Granted, you will bear the double-weight of simultaneously building students' basic reading and writing skills while at the same time leading them to the goal of mastering the skills and concepts of your content area. All future chapters of

Example of Fog Index Implementation

"It is the **opinion** of the writer that it is the **appropriate** moment to **re-examine** the style of writing which might most **effectively** be used by members of the **engineering profession**. It is also the writer's belief that a long-lasting **tradition** about the **inappropriateness** of the active voice and the **personal** pronoun for **technical** writing has made for a great deal of **inefficiency**. This kind of writing has been **exemplified** in the past by **numerous national publications**. It would appear that an **application** of the **principles** of **engineering** to the problem would be **beneficial** and it would seem the result might be that such a style would be **eliminated**."

1. number of words: 109; number of sentences: 5; average sentence length: 22 words.
2. words of 3 or more syllables: 20; difficult words per 100 words: 18.
3. average sentence length added to percentage of difficult words per 100 words: 40; 40 multiplied by 0.4: 16.

The Fog Score is 16—that is, the reader needs about 16 years of education (college senior) to read the paragraph easily.

[Note: When we used the Fry **Readability** Graph and the Fog Index to **evaluate** the **complexity** of the **curriculum** you are reading right now, we found out why one must truly take **multiple** samples when **analyzing** longer texts. The first sample suggested that the **curriculum** was **appropriate** for readers with **approximately** twenty-one years of **education**, while the second sample yielded a required eight years of **education**. After taking **numerous** samples and computing the mean, we found that the **curriculum** text is **appropriate** for readers with about sixteen years of **education** beyond **Kindergarten** - how **convenient!**]

Identifying the Source of Reading Difficulties

this text, and the sessions you will attend at the institute, will provide instruction in the various pieces that are necessary for creating such a learning environment.

Conclusion

In this chapter, we illuminated the wide range of things that can be meant when a teacher says, “my students can’t read the textbook.” We also discussed how to diagnose a specific reading problem based on what you see and hear when students read, and how to find texts that are on the appropriate level for your students.

- There are many different layers to reading – ranging from the ability to “read” the word *biology* because students know all the sounds made by the letters *b, i, o, l, o, g, y* and how the sounds blend to make the word *biology* (Decoding), to having seen the words *mammal, cellular, and carbon dioxide* so many times that they recognize them automatically and don’t need to spend mental energy decoding them (Fluency) to understanding the meaning of the specialized biology vocabulary, having appropriate background knowledge, and utilizing comprehension strategies (Comprehension).
- Your students could struggle with some or all of these aspects of reading. It will be necessary, in order to appropriately build your students’ reading skills, to determine the specific areas of deficiency by either collaborating with the English/Language Arts teacher or administering an appropriate diagnostic yourself. Some tools to diagnose student decoding and fluency include a Phonological Assessment, a Phonics Survey, a Qualitative Spelling Inventory, Word Lists, and a Timed Reading Exercise. To diagnose comprehension levels, you could administer a Comprehension Retell, or a QRI.
- Finally, you are now aware of techniques for recognizing the demands of a text, such as scrutinizing its vocabulary, required background knowledge, length, and text patterns, as well as for quantifying its difficulty by using the Fry Graph and the Fog Index—or even your computer.

The Foundations of Word Recognition, Vocabulary, and Fluency

Chapter Two

- I. Improving Word Recognition
- II. Building Vocabulary
- III. Fluency: The Bridge from Decoding to Comprehension

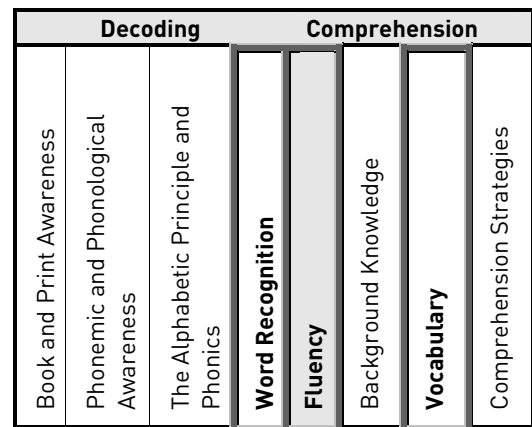
Introduction

High school biology students stumbling over the pronunciation of the word cytoplasm.

Social studies students decoding the words “anarchy” and “theocracy” yet not understanding the words’ meanings.

English students reading a passage in a short story so haltingly that they can’t engage in a group discussion afterwards.

As discussed in Chapter One, since most secondary students have certainly mastered book and print awareness and often progressed past the basics of phonemic and phonological awareness, the alphabetic principle, and basic phonics, the above anecdotes represent some of the challenges that you may face with your secondary students, in a content area classroom or in an English classroom. Each scenario illustrates one of the foundational reading skills with which our secondary students typically struggle: word recognition, vocabulary, and fluency. In this chapter, we’ll expand our understanding of these important areas of reading and share strategies for building students’ proficiency in these skills in both a secondary English class and other content area classes.



I. Improving Word Recognition

The strand of word recognition builds on the ability to sound out words, given knowledge of the sound-symbol correspondence and spelling patterns (i.e., the alphabetic principle and phonics). Word recognition involves breaking up a multisyllabic word into components and using meaningful word parts, such as *un-*, *anti-*, *hydro*, and *-ment* to decipher the word. The ultimate goal of word recognition is “automaticity,” or recognizing the majority of words automatically. By the end of third grade, the majority of students should have mastered the key sound-symbol relationships of phonics instruction.

The *majority* of middle and high school students across the country do not struggle with reading at the phonics level of decoding—even students in our classrooms. If students do struggle with reading common single syllable words, given that they should have mastered those skills between Kindergarten and third grade, they either received poor instruction in elementary school or they may have a reading disability. If you teach students with this level of deficiency, you will need to reach out to a special

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educator or other expert in reading disabilities. As a starting point, you might also want to access the *Elementary Literacy* text, specifically chapter three, which outlines the background knowledge and teaching strategies you would need to effectively individualize your instruction for students whose decoding skills are dramatically below grade level. Since many of our students will struggle with word recognition, specifically breaking down multisyllabic words, using meaningful word parts, and recognizing words with automaticity, we should expect to integrate strategies that will build student's word recognition skills.

Strategies that Improve Word Recognition

Cajoling students to “just sound it out,” or reading the word for the student when he stumbles with the pronunciation, substitutes another word, or skips over it entirely, proves an either ineffective or short-term solution to poor word recognition. Below we discuss four strategies for improving students' word recognition skills that secondary teachers of any content area could implement.²⁸ All of these strategies reinforce the important concept that words are made up of several components, a point could be a bit of an epiphany for your struggling readers.

1. Prompt students to get their mouths ready.²⁹

A common phrase in an elementary classroom, secondary students can also benefit from being encouraged to “get their mouths ready” for a word that stops them in their tracks. Rather than prompting students to “just sound it out,” you will help students to focus on producing the initial sounds of the word, which the vast majority of secondary students will be able to do given their understanding of sound-symbol correspondence. “Reminding students to ‘get your mouth ready’ forces students who normally sit and stare at an unknown word to actually do something...often they can recognize the first syllable of a word. As they read the sentence up to the word that is unknown and then read the first few letters of the word, often they can predict what the entire word should be as they combine semantics (what the sentence is about) with graphophonics (letter-sound relationship).”³⁰ Consider the following classroom example:

As Conner read the sentences, “He was huddled into a corner. He was too afraid to move,” he paused at *huddled*. He just stared at it and then looked at me. Prior experience told him that if he waited long enough, the teacher would tell him the word.

Instead, I said, “Get your mouth ready to say those first few letters.”

He looked back at the page. He whisper read /hud/ and then he started reading again: “He was hu...” He stopped and looked at me. I asked him to cover up the hud part of the word and to get his mouth ready to say the rest of it. He looked at it and said “dl.” I asked him what the end sound would be and to move his mouth to that sound. He made the /d/ sound and then said, “dled.” I told him to read the sentence again, trying the entire word. He read, “He was hud-dled,” and then said, “Oh *huddled*, he was huddled.” He finished the selection, and then I asked him to reflect on how he figured out the word. “Well, you know, I just kept trying to make my mouth like say the sounds. Usually, I just look at the word, but looking doesn't really help you hear the sounds.”³¹

²⁸ Section modified from Beers, Kyleene. *When Kids Can't Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, and Blevins, Wiley. *Teaching Phonics & Word Study in the Intermediate Grades*. New York: Scholastic Professional Books, 2001.

²⁹ Beers, Kyleene. *When Kids Can't Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 239.

³⁰ Ibid p. 240.

³¹ Ibid p. 241.

2. Teach common rime and syllable patterns to help students break words up into chunks.

Teaching students to break words up into recognizable syllable and rime chunks is increasingly important in secondary classrooms where students encounter multisyllabic words. As you'll recall from chapter one, a "rime" is the vowel and following consonants in a syllable, for example, the *-eat* in *meat* or the *-unk* in *sunk* (the *m-* and the *s-* in those two words are called the "onset"). In elementary school, students were ideally taught about word families (meat, heat, seat) and learned to decode those words not as /m/ /ea/ /t/, but as /m/-/eat/, which is much faster to blend and ultimately more accurate.

The teaching of rime patterns is made somewhat easier given that 37 rimes make up 500 words, as shown in the adjacent chart.³² When a student has consistent trouble breaking down multisyllabic words, consider working individually with them on various rime patterns. You might show students words containing similar rime patterns (*chlorine*, *fluorine*, *bromine*) and asking them what is the same in each word. Then, you might encourage them to brainstorm other words that contain similar rime patterns. This process should help students see words as not one big overwhelming string of letters, a common perspective of students with weak word recognition, but as a composite of several recognizable chunks. The ultimate goal of this type of instruction is to help your secondary students transfer their rime recognition to the analysis of, for example, the rimes *-an*, *-ip*, and *-ate* within *manipulate*, and decode the word that way, rather than phoneme by phoneme.

Most Commonly Used Rime Patterns				
37 rimes make 500 words				
A	E	I	O	U
-ack	-eat	-ice	-ock	-uck
-ail	-ell	-ick	-oke	-ug
-ain	-est	-ide	-op	-ump
-ake		-ight	-or	-unk
-ale		-ill	-ore	
-ame		-in		
-an		-ine		
-ank		-ing		
-ap		-ink		
-ash		-ip		
-at				
-ate				
-aw				
-ay				

In addition to rimes, teaching common syllables helps students see the "trees" in the "forest" of a multisyllabic word that they will encounter in your content area. Studies have shown that "through systematic, focused instruction on...common syllable patterns, students' ability to read longer words can be improved."³³ Conveniently, there are charts of the most common syllables in the English language for you to consider when doing this type of targeted instruction with students. The first fifty most common syllables are below.³⁴

50 Most Common Syllables				
1. ing	11. e	21. en	31. pro	41. ma
2. er	12. con	22. an	32. ac	42. si
3. a	13. y	23. ty	33. ad	43. un
4. ly	14. ter	24. ry	34. ar	44. at
5. ed	15. ex	25. u	35. ers	45. dis
6. l	16. al	26. ti	36. ment	46. ca
7. es	17. de	27. ri	37. or	47. cal
8. re	18. com	28. be	38. tions	48. man
9. tion	19. o	29. per	39. ble	49. ap
10. in	20. di	30. to	40. der	50. po

³² Ibid p. 234 (modified).

³³ Blevins, Wiley. *Teaching Phonics & Word Study in the Intermediate Grades*. New York: Scholastic Professional Books, 2001, p. 187.

³⁴ Ibid p. 196.

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To see how these threads of instruction merge to build a students' word recognition, consider a transcript of an eighth grade student breaking down a word. Note how the student relies on her understanding of rimes and syllables to chunk the word into smaller parts:

Jasmine: [Looking at *meaningful*]. Boy, this one is long. Um. /m/. No wait, there's -f-u-l and that says /ful/. Right. And, there's -i-n-g and that's, you know, /ing/. So this part here [puts her index fingers around the letters *ingful*] says /ingful/. So that just leaves this [moves index fingers to border *mean*]. Well, e-a-n, that's like in bean-see right up there on the wall [points to rime wall that has words arrange by onset-rime]. So, /m-ean/. Oh, *mean*. /Mean-ing-ful/. Meaningful.

Teacher: That's good, Jasmine. Meaningful. How'd you figure that word out?

Jasmine: Well, at first I was getting lost. It's so long. But then I saw some parts I already knew, and then I looked at this part here and recognized it. So I was, I guess, you know what we called chunking. Yeah, I was like chunking it.

Teacher: What would you have done last year, before you had learned about chunking?

Jasmine: You know, other teachers, you know my reading, it's not too good, because all the words, you know, they are like so long. And other teachers they are always like going "sound it out" and so you just try to go through all the letters, but sometimes then the word, it isn't like making any sense. So, mostly, I was just stopping. Just stop. If you stop, someone will tell you the words.

Teacher: What about this year?

Jasmine: Well, now, you know, now it's like I've got some other ways, you know, like I can chunk or find parts that I know. Now it's like big words are really just a lot of like small parts put together.³⁵

The best way to teach students to chunk their words is to follow the same steps you would use to teach any other skill: introduce the chunking skill, model the skill, practice the skill with students, and have students practice the skill on their own. As the above vignette illustrates, the skills of recognizing rimes, recognizing syllables, and chunking the word are synergistic, and would need to be taught simultaneously to be most effective.

3. Teach prefixes, suffixes, and root words.

The strategy of teaching prefixes, suffixes (collectively called affixes), and root words could be included in this section on improving students' word recognition, or it could be included in part II below on building students' vocabulary. Learning affixes and roots involves both being able to identify them in a word and pronounce them (which leads to better word recognition), and knowing how they change the meaning of the root word (which increases vocabulary). Here, we'll talk about what affixes and root words to teach. In part II on vocabulary, we'll talk specifically about strategies to help students apply the *meanings* of affixes and roots to build vocabulary knowledge.

³⁵ Beers, Kylene. *When Kids Can't Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 236.

As you are probably aware, a prefix is a group of letters added to the beginning of a base word that changes the word's meaning. For example, *un-*, the most common prefix in the English language, means either *not* (as in *unstable*, a term a chemistry teacher may refer to frequently) or *do the opposite of* (as in *unearth*, a term perhaps heard in a social studies classroom). A suffix is a group of letters added to the end of the base word that changes the base word's meaning. For example, the *-or* in *senator* indicates that the word means a person related to the senate.

I teach the 20 most common prefixes and the 20 most common suffixes. I also teach roots. I teach the students that the prefix is like the engine of a train, the root is like the train car, and the suffix is the caboose. I cut out engines, train cars, and cabooses from thick paper and write a different prefix, root, or suffix on each one. The students practice mixing and matching the word parts to make new 'trains' and new words.

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7th Grade English

The following table provides an overview of the twenty most common prefixes and their meanings.³⁶

The Twenty Most Frequent Prefixes			
Prefix	Words with the Prefix	Prefix	Words with the Prefix
un- (not, opposite of)	782	pre- (before)	79
Re- (again)	401	inter- (between, among)	77
in-, im-, ir-, il- (not)	313	fore- (before)	76
dis- (not, opposite of)	216	de- (opposite of)	71
en-, em- (cause to)	132	trans- (across)	47
non- (not)	126	super- (above)	43
in-, im- (in or into)	105	semi- (half)	39
over- (too much)	98	anti- (against)	33
mis- (wrongly)	83	mid- (middle)	33
sub- (under)	80	under- (too little)	25

The table below shares the twenty most common suffixes and their meanings.³⁷

The Twenty Most Frequent Suffixes			
Suffix	Words with the Suffix	Suffix	Words with the Suffix
-s, -es (plurals)	31%	-ity, -ty (state of)	1%
-ed (past-tense verbs)	20%	-ment (action or process)	1%
-ing (verb form/present participle)	14%	-ic (having characteristics of)	1%
-ly (characteristic of)	7%	-ous, -eous, -ious (possessing the qualities of)	1%
-er, -or (person connected with)	4%	-en (made of)	1%
-ion, -tion, -ation, -ition (act, process)	4%	-er (comparative)	1%
-ible, -able (can be done)	2%	-ive, -ative, -itive (adjective form of a noun)	1%
-al, -ial (having characteristics of)	1%	-ful (full of)	1%
-y (characterized by)	1%	-less (without)	1%
-ness (state of, condition of)	1%	-est (comparative)	1%

³⁶ Modified from Beers, Kylee. *When Kids Can't Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, and Blevins, Wiley. *Teaching Phonics & Word Study in the Intermediate Grades*. New York: Scholastic Professional Books, 2001, p. 206.

³⁷ Modified from Blevins, Wiley. *Teaching Phonics & Word Study in the Intermediate Grades*. New York: Scholastic Professional Books, 2001, p. 215.

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Secondary English teachers should probably focus on teaching these most common prefixes and suffixes in order to help students break apart words into manageable chunks, with content area teachers focusing on the less pervasive but still content-area-critical Greek and Latin affixes and roots, such as *-phobia*, *-logy/logist*, *-therm-*, *tri-*, *centi-*, *circum-*, etc.

Common Latin Roots ³⁸		
Audi	<i>Hear</i>	Audience, auditorium, audible, inaudible, audition
Dict	<i>Speak</i>	Dictate, predict, contradict, verdict, diction
Port	<i>Carry</i>	Import, export, portable, porter, transport
Rupt	<i>Break</i>	Abrupt, bankrupt, erupt, interrupt, rupture
Scrib/script	<i>Write</i>	Describe, inscribe, prescribe, scribe, describe, script, transcript, prescription
Spect	<i>See</i>	Inspect, respect, spectacles, spectator, suspect, perspective
Struct	<i>Build</i>	Construct, destruct, destruction, instruct, structure
Tract	<i>Pull, drag</i>	Attract, detract, contract, subtract, traction, tractor
Vis	<i>See</i>	Visible, supervise, vision, visionary
Common Greek Roots		
Auto	<i>Self</i>	Automobile, automatic, autograph, autotrophy, autobiography
Bio	<i>Life</i>	Biography, biology, biodegradable, biome, biopsy, antibiotic,
Graph	<i>Written or drawn</i>	Graph, graphic, graphite, seismograph
Hydro	<i>Water</i>	Dehydrate, hydrogen, hydrant, hydrodynamic, hydraulic, hydrophobic
Meter	<i>Measure</i>	Barometer, centimeter, diameter, thermometer
Ology	<i>Study of</i>	Geology, biology, hydrology
Photo	<i>Light</i>	Photograph, photocopy, photogenic, photosynthesis, photoelectric
Scope	<i>See</i>	Microscope, periscope, stethoscope, telescope
Tele	<i>Far, distant</i>	Telephone, telescope, telecast, telegram
Therm	<i>Heat</i>	Thermometer, thermos, thermal, thermosphere

As we'll discuss in more depth the second part of this chapter, you should teach students the meanings of these roots in categories. For example, if an earth science teacher were teaching about geothermal vents, she might take a few minutes to break down the word "geothermal" and discuss the meaning of its two Greek roots: *geo* (relating to the earth), and *thermal* (of, relating to, using, producing, or caused by heat). The teacher could then ask students to brainstorm other words with similar roots and consider their meanings. For *geo*, students might come up with *geography*, *geology*, *geologist*, and *geometry*. The last word, *geometry*, might stump students in terms of its relation to the earth. However, our example teacher, who might have anticipated this response and therefore looked it up ahead of time, could explain that early uses of the word *geometry* described the measurement (*-metry*) of land (*geo-*). A similar quick brainstorming exercise could be done with *thermal*, with students offering the words *thermometer*, *thermos*, and *thermostat*. Either the teacher or the students could draw out the meaning of *therm*: heat. This mini-lesson will help students interact with the word *geothermal* meaningfully—one of the key principles of vocabulary instruction, as you'll read—and firmly imbed the meaning of the word (heat from the earth) in students' minds for later application. Clearly, some

I teach my students 1 Latin root a week (such as pre or ex). Their vocabulary for that week consists of 5-8 words that are based on that Latin root (explore, explode, etc.). By learning 1 Latin root and a handful of words that get their meaning from that root, students recognize more unfamiliar words as they read, and can figure out difficult words that might otherwise make them put their book down.

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measurement (*-metry*) of land (*geo-*). A similar quick brainstorming exercise could be done with *thermal*, with students offering the words *thermometer*, *thermos*, and *thermostat*. Either the teacher or the students could draw out the meaning of *therm*: heat. This mini-lesson will help students interact with the word *geothermal* meaningfully—one of the key principles of vocabulary instruction, as you'll read—and firmly imbed the meaning of the word (heat from the earth) in students' minds for later application. Clearly, some

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aspects of instruction in word recognition, in particular what we are modeling here, steps over the line to vocabulary instruction, the focus of the part II below.

4. Use word walls to teach and reinforce the high-frequency words of your content area.

One best practice for building students' word recognition is to provide them with a constant visual reminder of the frequently encountered words in your content area and/or current unit in the form of a "word wall." For example, an earth science teacher might post on the wall an alphabetized list of the key words for a unit on phenomena that alter the surface of the earth, such as *weathering, glaciation, crustal deformation, volcanoes*, etc. A seventh grade English teacher whose class is reading the novel *Scorpions* by Walter Dean Myers might post the words *innocence, appeal, and temptation*, among others. In all cases, your word wall should be organized alphabetically and in font large enough for students to easily read from their seats. Students can have their own personal word "walls" as well, either on a single sheet of paper or as a collection of flash cards. These personal word walls should contain words they struggle in recognizing. An example of a personal word wall is in the **Secondary Literacy Toolkit** (p. 8), which can be found online at the Resource Exchange on TFA.Net. ✖

The word wall is not something you should have filled in for the unit's introductory lesson; rather, you should build it with your students over time, constantly adding words that students find challenging to identify with automaticity in the current area of study. For the word wall to truly improve word recognition, you'll need to refer to it whenever an already posted word occurs in your reading, and encourage students to refer to it when incorporating those words into their writing.

Use of word walls, while one strategy for building students' rapid recognition of words, also provides students with multiple exposures to words, one of the principles of effective vocabulary instruction discussed below.

II. Building Vocabulary

Teaching the new words you and your students will undoubtedly encounter in your content area is central to meeting the content-specific goals of your long-term plan, as increased vocabulary development leads to increased reading comprehension—a crucial skill when much of your content-specific information will come from texts.

While we all find ourselves in a position to teach vocabulary, not all teachers recognize the challenge of effective vocabulary instruction. **Unfortunately, perhaps the most obvious (if not most common) approaches to vocabulary instruction are also the least effective.** All of us probably remember having to look words up in the dictionary and memorize their meanings, or being presented with a list of ten or more unrelated words to be learned each week. Consider the reflections of Janet Allen, high school English teacher and author of *Words, Words, Words*, on these conventional teaching practices:

When I began teaching, I 'taught' vocabulary the same way my teachers had taught me: I assigned lists of words; asked students to look them up in the dictionary and write them in sentences; and gave weekly vocabulary tests. Those exercises then gave way to programmed vocabulary books. My students and I worked our way through levels A-F, but it didn't take long for me to realize that these exercises didn't increase their speaking, reading, and writing language any more than looking words up in the dictionary had. Students seldom (never) gained enough in-depth word knowledge from this practice to integrate the words into their spoken or written language. These exercises did, however, keep them quiet for long periods, and I was doing what all veteran teachers I

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knew were doing, so I truly wanted to believe that students were learning from this activity.³⁹

These familiar approaches to teaching new words are all but useless as instructional methods, as researchers attest:

The most frequently used inappropriate technique is that of giving students a list of words out of context and telling them to look up their meanings in the dictionary. Three facts argue against this. First, most words have several meanings and many shades of meaning. Taken out of context, there is no way for students to decide which dictionary definition is most nearly appropriate. Second, unless a learner has some knowledge of a word and its meaning already, dictionary definitions are often inadequate. In general, dictionaries are more useful for students to use in checking the meaning of a totally unfamiliar word. Finally, asking students to do something does not constitute instruction.⁴⁰

So, what are we to do? Researchers generally agree that students can learn some new words (perhaps 3 to 15 new words out of 100 unfamiliar words) by reading them and determining their meaning from context.⁴¹ This slow progress of learning words in context is most likely due to the fact that discerning the meaning of a word through the oft-espoused “context clues” is surprisingly challenging, especially for struggling readers. Using context clues requires active engagement with the text (something struggling readers do not do, as will be discussed in chapter three). Specifically, using context clues demands the ability to make connections to background knowledge and make inferences within the passage, often beyond the surrounding few sentences. Next time you come across an unfamiliar word in a text, try to track the cognitive circumvolutions you use to determine the meaning from the context clues.⁴² It isn’t always easy. And for struggling readers, it is often an impossible task.

As opposed to relying *solely* on students learning new vocabulary words from context clues while reading independently, researchers promote systematic and explicit vocabulary instruction, especially for struggling readers and students with weak vocabularies. When engaging in this explicit vocabulary instruction, the most effective approaches require that the teacher:

- 1. Carefully choose a limited number of words and provide a direct, student-friendly explanation of their meanings.**
- 2. Create meaningful interactions with the words in a variety of formats and contexts.**
- 3. Ensure the students have multiple exposures to the new words.**

Let’s look at each of these three points in turn to see how we can help students learn, use, and remember the vocabulary words we teach them.

³⁹ Allen, Janet. *Words, Words, Words*. Portland, ME: Stenhouse Publishers, 1999, pp. 2 and 10.

⁴⁰ Ryder, Randall and Michael Graves. *Reading and Learning in the Content Areas, 2nd edition*. Wiley Text Books, 2002.

⁴¹ Baumann, James and Edward Kame’enui. *Vocabulary Instruction: Research to Practice*. New York: The Guildford Press, 2004, p. 15.

⁴² If you didn’t automatically know the meaning of circumvolution, you probably first thought about the context in which it was used: to describe the challenging mental steps people go through to determine a word’s meaning. Then, you looked at the prefix, *circum*, and knew that meant “around.” *Volution* might have posed more of a problem, but you know other words with that root, such as “revolution,” and so probably deduced that it had to do with turning. You pretty much got it: Circumvolution, *noun*. The act of turning, winding or folding around a central axis. Whew.

1. Carefully choose a limited number of words and provide a direct, student-friendly explanation of their meanings.

Ask a struggling reader to choose her own vocabulary words to study—an approach filled with the good intention of giving her ownership of the words—and she will probably come up with an overwhelming list. If you went through an upcoming chapter in a textbook or short story and identified all the words that you anticipated students not knowing, you would probably come up with an overwhelming list as well. As teachers, we need to know how to narrow our focus for the number of words we teach our students. How do we do that? First, consider how researchers Margaret McKeown and Isabel Beck have grouped an individual’s vocabulary into three tiers:⁴³

Tier one: the most basic words, such as *water, picture, girl, money*, that rarely require explicit instruction in school, as their meanings are acquired through day-to-day conversation.

Tier two: words that occur in the vocabulary of “mature language users” and are used in a variety of written and oral communication, such as *compromise, scrutinize, diligent, and typical*.

Tier three: words that are mostly unique to a particular domain of knowledge, such as *watershed, rhombus, amnesty, and colonnade*.

As a general rule of thumb, English teachers should focus on tier two words, perhaps the most critical for our students to master in order to have a broadly applicable vocabulary and enhanced reading and writing ability. Content area teachers should teach tier two words when necessary and appropriate, but are primarily responsible for teaching tier three vocabulary words, as those are most likely crucial to the understanding of the major concepts of the content area.

When choosing what tier two or tier three words to explicitly teach and reinforce with students, consider the following questions you might ask yourself:

- Which words are most important to understanding the text we are going to read and/or the concept we are about to study?
- Which words do students already have prior knowledge of?
- Which words can be figured out from the context?

Students can help you answer these questions if you provide them with charts that help them group words into the categories of (1) totally new/don’t know at all, (2) have seen or heard this word before, but don’t know the meaning, (3) think I know the meaning of this word, and (4) know the meaning of this word. A sample “Organizer for Diagnosing Word Knowledge” is in the **Secondary Literacy Toolkit** (p. 9); this Toolkit can be found online at the Resource Exchange on TFANet. ✕

When carefully choosing vocabulary words to teach explicitly, consider not only words that students will come across in various texts, but also the words you want students to use when talking about or writing in your content area. Teaching students the “academic” language of your content area will propel them forward in their ability to apply their knowledge in conversation and writing, both important to building confidence and deepening their comprehension. The two charts below share academic language you might consider weaving into your vocabulary instruction.

⁴³ Baumann, James and Edward Kame’enui. *Vocabulary Instruction: Research to Practice*. New York: The Guildford Press, 2004, p. 14.

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Academic Language for All Content Areas⁴⁴

Simple Academic Sentence Frames			
I think that...		Furthermore...	
I believe that...		In this report, I will...	
This report is divided into x sections.		This document reports...	
We intend our report to...		In my opinion...	
I hypothesize that...		In conclusion...	
We concluded that...		I disagree with x because...	
I discovered that...		This section contains...	
In addition, I think...		In order to understand...	
		The purpose of this paper...	
Academic Verbs			
Acquire	Create	Facilitate	Manipulate*
Allude to	Critique	Frame	Pursue
Analyze	Describe	Focus	Organize
Anticipate	Demonstrate	Generate	Realize
Associate	Determine	Hypothesize	Reconsider
Claim	Differentiate	Indicate	Respond
Collect	Discuss	Identify	Refer
Convince	Enhance	Inform	Relate
Communicate	Enable	Integrate	Represent
Compare	Evaluate	Introduce	Sequence
Contrast	Examine	Inquire	Synthesize
Contribute	Express	Investigate	Summarize
Connect	Extended	Justify	Symbolize
Conclude	Extract	Juxtapose	Trace

Academic Language for English/Language Arts⁴⁵

Words to Describe Plot		Words to Describe Characters	
Realistic	Unrealistic	Original	Stereotyped
Good pace from scene to scene	Plodding	Believable	Unbelievable
Suspenseful	Predictable	Well-rounded	Flat
Satisfying ending	Frustrating ending	Multi-dimensional	Static*
Subplots tied together well	Confusing subplots	Well-developed	Flawed
Well-developed ideas	Sketchy ideas		

Words to Describe the Theme		Words to Describe the Author's Writing Style	
Important message	Unimportant message	Descriptive, filled with metaphors	Boring, no imagery
Subtle*	Overbearing	Original	Filled with clichés
Unique	Overworked	Lively, full of action	Slow-moving
Powerful	Ineffective	Poetic or lyrical	Clodding, jumpy
Memorable	Forgettable		

⁴⁴ Lapp, Diane et al. *Teaching All the Children: Strategies for Developing Literacy in an Urban Setting*. New York: The Guilford Press, 2004, p.288

⁴⁵ Beers, Kylene. *When Kids Can't Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 277.

Now we know what we mean by *carefully* choosing the vocabulary words we teach. What do we mean by a *limited number*? Unfortunately, there is no hard and fast rule to how many words a secondary student should be presented with in a week or in a lesson, although most secondary teachers, in both English and other content areas, thoroughly teach between 5 and 10 new words a week.

After you have chosen a limited number of tier two or three words to teach your students, consider how you will introduce and explain those words. As you create student-friendly definitions, keep in mind two basic steps: (1) characterize the word and explain how it is used, and (2) explain the meaning of the word in simple, everyday language.⁴⁶ Think about how you use the word *most often* and avoid overloading your students with all of its multiple meanings. To facilitate student understanding, define new words by using everyday, student-friendly language; it's helpful to include the words *something*, *someone*, or *describes* in your explanations.⁴⁷

2. Create meaningful interactions with the words in a variety of formats and contexts.

None of us want to learn words by just looking up the definition in the dictionary. And, that strategy will rarely work for our students because the dictionary definition may contain vague language or multiple meanings. Even if the definition were clear enough for our students, simply reading the dictionary entry and moving on will not help our students grasp the meaning of a word and use it appropriately in the future:

Methods that provide only definitional information about each to-be-learned word did not produce a reliable effect on comprehension. Also, drill-and-practice methods, which involve multiple repetitions of the same type of information about a target word using only associative processing, did not appear to have reliable effects on comprehension. The implication for teaching is strong: it takes more than definitional knowledge to know a word.⁴⁸

Providing student-friendly definitions of a few targeted vocabulary words is a significant step to help students to acquire new words. Here we will focus on a handful of strategies that will support students in meaningfully interacting with the words, each of which can be used in any content area. The five approaches we will consider are:

- (1) **Semantic Mapping**
- (2) **Using Word Parts (Morphemic Analysis)**
- (3) **Concept Definition Map**
- (4) **Frustration Model**
- (5) **Word/Concept Sorts**

Some Student-Friendly Definitions

- **Subtle** describes something that is difficult to see or detect.
- **To Manipulate** means to handle something in a way that gets the results you desire.
- **Static** describes something that is still and unchanging. (Tier 2 definition, taught in an English class)
- **Static** describes charges on an object or molecule that don't move. (Tier 3 definition, taught in a science class).

⁴⁶ Beck, Isabel et al. *Bringing Words to Life: Robust Vocabulary Instruction*. New York: The Guilford Press, 2002, p. 35.

⁴⁷ Ibid p. 39.

⁴⁸ Allen, Janet. *Words, Words, Words*. Portland, ME: Stenhouse Publishers, 1999, p. 8.

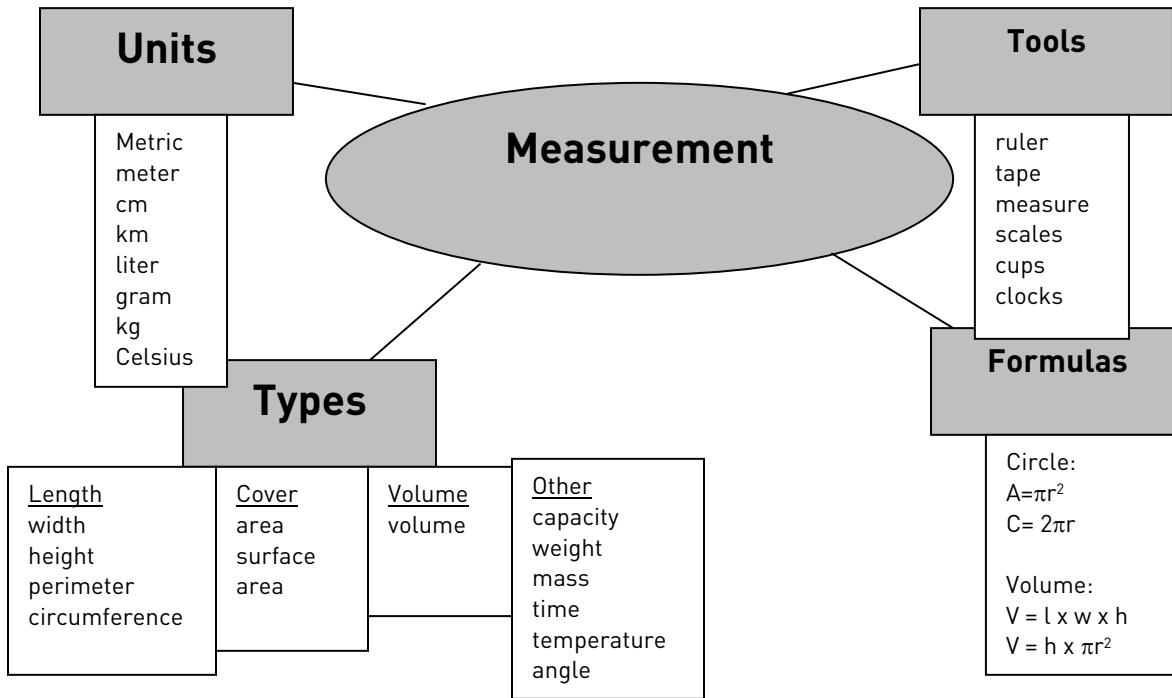
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(1) Semantic Mapping. This approach applies the graphic organizer concept to a set of vocabulary words, requiring students to make a map of the connections among the words they are studying. Not only is this an excellent way for students to build mental scaffolds for learning new words, but this process also offers a check on the teacher, as carefully chosen tier three vocabulary will usually have relationships conducive to this sort of semantic mapping. Effective vocabulary instruction using a semantic map has four parts, which would apply to classification of tier two words found in a class novel or tier three words found in a seventh grade math class.⁴⁹

- 1. Brainstorming.** The teacher and class brainstorm ideas having to do with a particular unit of study or theme. For example, a seventh grade class immersed in a unit on measurement might brainstorm vocabulary words related to measurement. Students might suggest *length, width, ruler, inch, meter*, and many other relevant terms. The teacher provides less obvious ideas such as *clock, circumference, and angle* and contributes additional ideas to the list.
- 2. Mapping.** The teacher guides the students to examine the list of ideas and create three or four categories in which to classify the words. In our seventh grade math example, students group the words into categories of *tools used to measure, units of measurement, and types of measurement*. The teacher and/or students draw a map to represent the categories and subset ideas.
- 3. Reading.** After drawing the map, the class reads an appropriate passage about the topic. For example, during a lesson on measuring the volume of liquids, students might read about metric units for capacity, the tools used to measure liquids, and formulas for determining volume. Depending on the reading abilities of the students, the selection might be read aloud, read in partners, or read individually.
- 4. Completing the map.** After reading the text, the teacher and students discuss new ideas they have learned and return to examine the map. Often, students will add a category to the map, as well as many ideas to the categories. After reading about measuring and calculating volume, students might realize they need to add a category for formula, as then now know $\text{Volume} = \text{length} \times \text{width} \times \text{height}$ or $V = \text{height} \times \pi r^2$. Especially in a content area classroom, steps three and four of this process could repeat any number of times as students build their word knowledge in a particular unit of study.

⁴⁹ Stahl and Stahl in Baumann, James and Edward Kame'enui. *Vocabulary Instruction: Research to Practice*. New York: The Guildford Press, 2004.

Consider the following semantic map produced by our seventh grade math students:



(2) Using Word Parts (Morphemic Analysis). Morphemes, or word parts, are the smallest meaningful units in the English language. These meaningful units are classified by type: *free morphemes* stand alone as a meaningful word (such as *man*, *blue*, *she*, and *under*) while *bound morphemes* (roots, prefixes, and suffixes) work as meaningful units only when combined with other morphemes (such as *revise*, *telephone*, *underline*, and *unknown*). Being familiar with various morphemes builds word recognition skills. Mounting research indicates that attention to morphemes—which at the secondary level should focus on prefixes, suffixes, and root words—also supports students’ vocabulary growth.⁵⁰ If you consider that knowing only 20 prefixes allows us to determine the meaning of nearly 3,000 words, the importance of morphology becomes clear.⁵¹

You’ll need to explain to your students why you are teaching them the meanings of small parts of words, and how breaking a word into meaningful parts, knowing the meanings of those parts, and putting them back together again will help them to determine the word’s meaning. When first introducing morphemes, it is helpful to illuminate the network of words students can read and understand by knowing only one word part. Consider the following snapshot of a fifth grade classroom in which the teacher shows his students how Latin word roots work within words:

“In thousands of words, there is a word part that is like a base word in that prefixes and suffixes attach to it. Unlike base words, however, this word part usually cannot stand by itself as a word. Still, it is the most important part of the word in which it occurs. We call it a *word root*. Let me show you one that’s in a couple of words you know quite well.”

⁵⁰ Templeton in Baumann, James and Edward Kame’enui. *Vocabulary Instruction: Research to Practice*. New York: The Guildford Press, 2004, p. 120.

⁵¹ Graves in Baumann, James and Edward Kame’enui. *Vocabulary Instruction: Research to Practice*. New York: The Guildford Press, 2004, p. 87.

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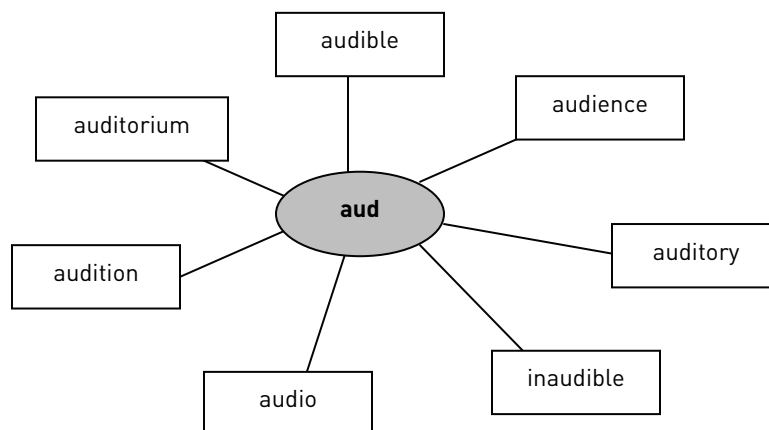
Mr. Ramirez then writes *fracture* and *fraction* on the board: “We know what these two words are and what they mean. What happens when you *fracture* your arm? [You break it.] What do you do when you divide something into *fractions*? [Mr. Ramirez elicits from the students that you break whole numbers down into fractions.] Good! Now, both of the words *fracture* and *fraction* have the word root *fract* in them. Is *fract* a word? [No.] It’s a very important part of the words *fracture* and *fraction*, however. We call *fract* a word root. It comes from a word in Latin that means ‘to break.’ Remember our discussion about the history of English and how so many words and word parts in English come from Greek and Latin languages? So, *fract* is a Latin word root and it lives on in the words *fracture* and *fraction*.”

“Word roots are everywhere! Let’s look at these words. [Mr. Ramirez writes *construct*, *construction*, and *structure* in a column on the board.] What’s the same in these three words? [Students point out *struct*.] Good! You’ve found the word root! Now, let’s think about what this word root might mean—think about what happens when construction workers construct a building or structure. [Students engage in a brief discussion in which the meaning “to build” emerges.] Right! *Construct* means ‘to build something’ and structure is another term we often use to refer to a building or something that has been built.”

Next, Mr. Ramirez adds the word *instruct* to the list and asks the students how the meaning of “build” might apply to the word. Through discussion, students come to the realization that *instruct* refers to how learning or knowledge is “built.”⁵²

Teachers often guide their students to use a graphic organizer such as a **root web** to help them sort and classify related words, or to determine a **definition by word part analysis**.⁵³ These graphic representations of relationships between words help students store and retrieve information from their memories, and also can be used for quick reference if they’re kept in a vocabulary notebook.

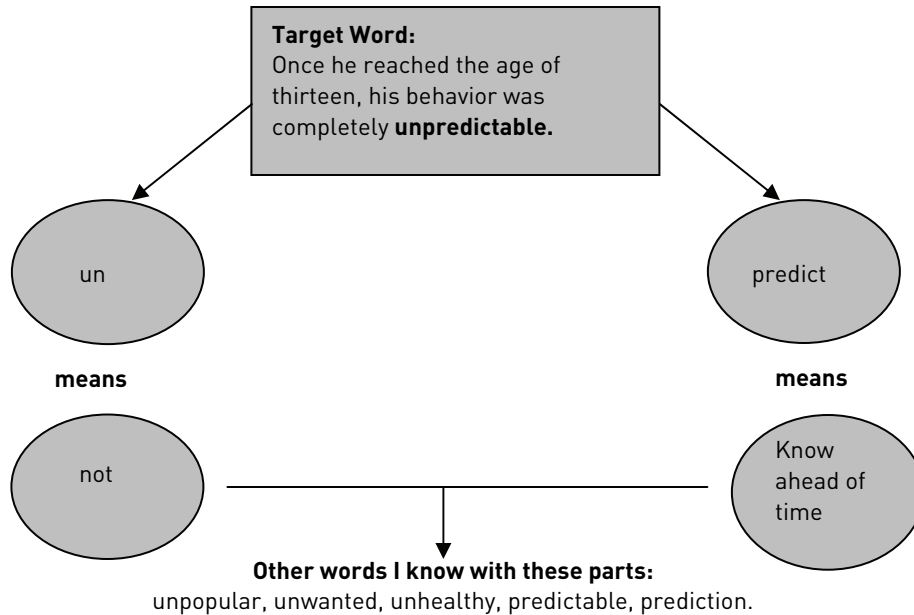
Root Web



⁵² Bear, Donald et al. *Words Their Way*, 3rd edition. Upper Saddle River, NJ: Prentice Hall, 2003, p. 258.

⁵³ Allen, Janet. *Words, Words, Words*. Portland, ME: Stenhouse Publishers, 1999, p. 55.

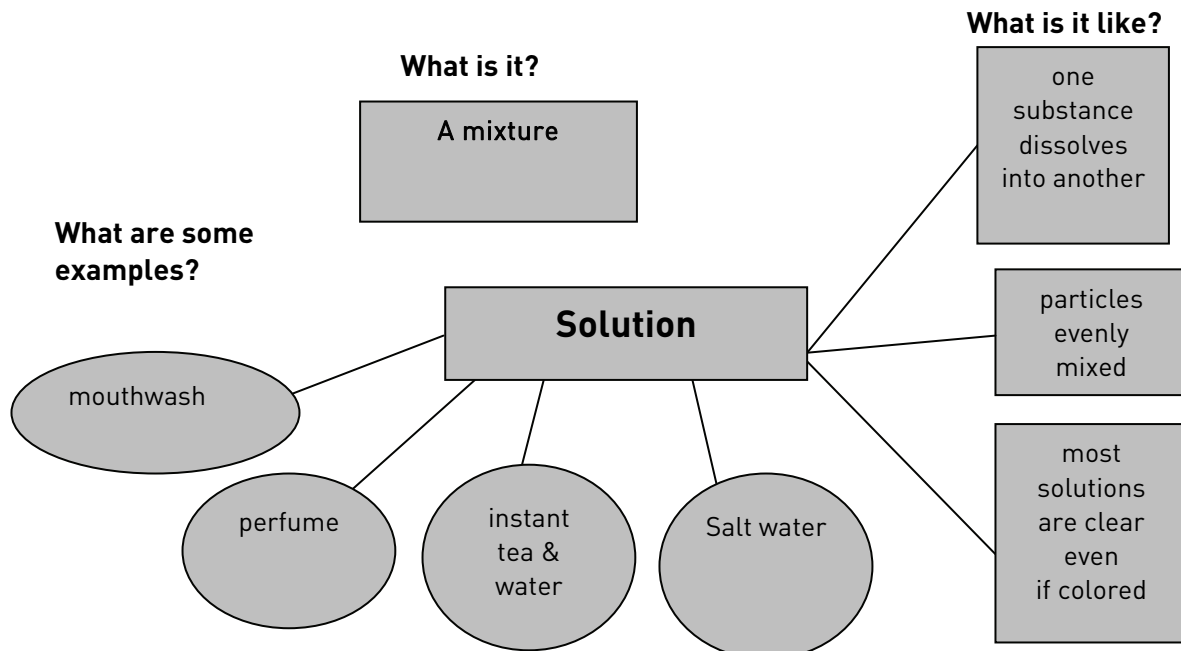
Definition by Word Part Analysis



Definition by Analysis:

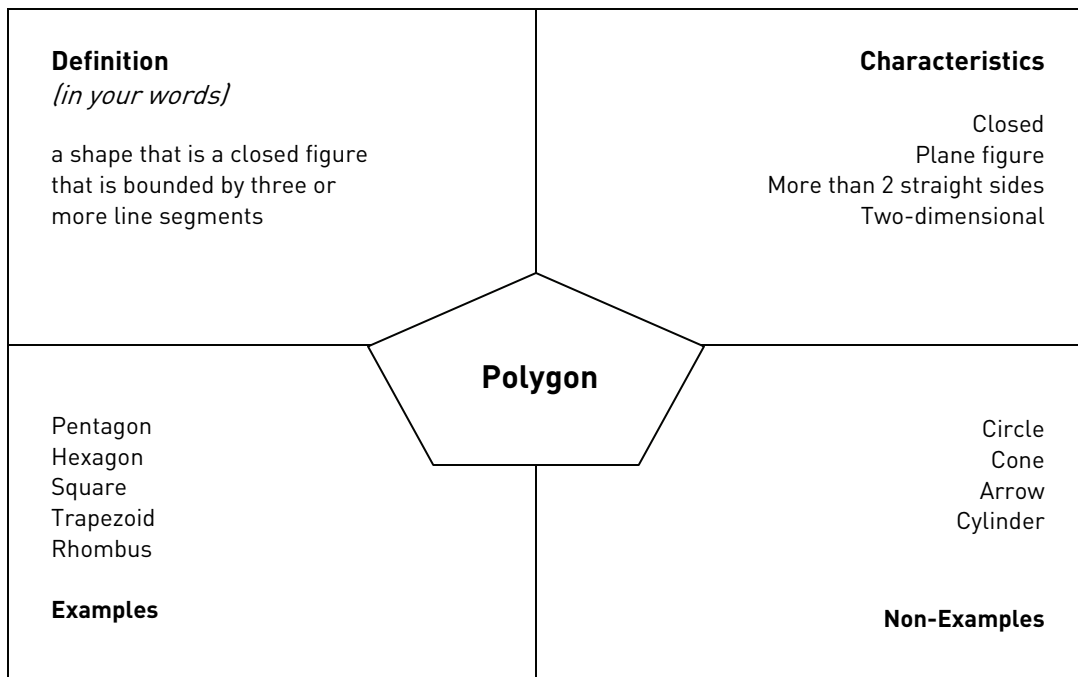
not able to guess or know ahead of time what he might do.

(3) Concept Definition Map. In this method, students are asked to complete a graphic organizer that ultimately creates an extensive definition of the word: What is it (a definition)? What is it like (some of its properties)? What are some examples of it (some common examples with which students will be familiar)? The teacher will need to be involved in this process, especially by suggesting examples of the word that will prompt students to provide more examples and allow students to fill in what the word is like. Consider the following example:



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(4) Frayer Model. This strategy requires students to explore a concept or word by looking at four attributes: Definition, Characteristics, Examples, and Non-Examples. The teacher should first model a sample Frayer Model using an easy word or one that the class has already learned. Students then work in pairs, small groups, or as individuals to complete their diagram for each word or concept. The teacher may need to prompt students with examples and non-examples, to which students can later add and draw out the characteristics. This example shows a student's Frayer Model for a polygon. The process of creating this model required the student to consider the concept of a polygon from a number of angles, thereby reinforcing internalization of the concept.



(5) Word/Concept Sorts. This is another vocabulary instruction method that allows students to meaningfully interact with words in a new context or format. Students copy words onto index cards, post-it notes, or slips of paper cut in 3x5 pieces, one word per card. For example, a middle school science teacher might provide the following words during a unit on the human body:

Spinal cord	Hemoglobin	Aorta	Brain stem
Small intestine	Neuron	Platelets	Esophagus
Oxygen/Carbon Dioxide	Erythrocytes	Salivary glands	Digestive enzymes

Individually, in pairs, or in groups, students sort the words into categories. Depending on the familiarity the students have with the material, it may be appropriate for the teacher to choose some or all of the categories. As they become more knowledgeable, encourage students to create categories of their own. Students might sort the above vocabulary the following ways:

- Corresponding body systems (*nervous* = spinal cord, neuron, brain stem; *digestive* = salivary glands, esophagus, digestive enzymes, small intestine; and *circulatory* = aorta, erythrocytes, hemoglobin, platelets, oxygen/carbon dioxide);
- Similar structures (elongated organs or organ parts = spinal cord, small intestine, esophagus, aorta, brain stem; cells = erythrocytes, platelets, neurons, salivary glands; molecules = hemoglobin, digestive enzymes, oxygen/carbon dioxide).

Like so many of these strategies, this approach requires students to engage the conceptual meaning of the word, transforming their understanding beyond rote and superficial memorization to an internalized, long-term base of knowledge.

3. Ensure students have multiple exposures to the new words.

Students need multiple exposures to and opportunities to use the new words—in an appropriate context, not in isolation—to have it become a part of their vocabulary. In fact, “words should be used in a meaningful context between ten and fifteen times.”⁵⁴ After teaching the vocabulary words of focus for an upcoming unit or novel, one practical strategy is to integrate those words into your speech whenever possible and praise students who do the same. While critical for all teachers, doing this could vary in difficulty depending on the content area; it might be rather challenging for a secondary math teacher (it takes a creative thinker to slip the word “vertex” into everyday conversation) yet relatively easy for a secondary English teacher. Consider the reflection of Janet Allen, author of *Words, Words, Words*, once she discovered the importance of using vocabulary words in her speech:

My students didn't use the words I assigned from a word list. They used the words they heard on television and radio; they used the words from the music they listened to; and they used the words I used with them...When students asked me for a pen or pencil, I had one of two responses: “sure you can. I seem to have a plethora of pencils today,” or “Sorry. I seem to have a dearth of pencils today.” Soon I heard students saying the same words with each other.⁵⁵

While a math teacher may not be able to easily integrate those “tier three” words into her speech, remember that word walls and other classroom print can serve as some of the many exposures students need to move a word to long-term memory. Rather than just posting the words, provide a visual representation of its meaning (for example, draw a parallelogram or mitochondria next to the words *parallelogram* or *mitochondria*) or post the student-friendly definitions of the word. Consider assigning students the task of identifying the words outside of class in a variety of print media (and post their results on the wall). Creating a highly verbal and print rich environment will go a long way in building the vocabulary of your students.

As occasions arise, also point out the shades of meaning that different words have in different contexts. As Oliver Wendell Holmes aptly stated, “a word is not a crystal, transparent and unchanged; it is the skin of a living thought and may vary greatly in color and content according to the circumstance and time in which it is used.” This applies to words as common as *run* (to *run* a mile, a *run* in a pair of stockings, a *run* on milk and bread before a storm, a *run* in baseball) and as rare as *lodestone* (a rock with magnetic properties in the science book, perhaps a character with a magnetic personality in a novel).⁵⁶

How do I assess vocabulary mastery?

The conditions in which students most thoroughly learn vocabulary words described above give us insight into the most effective means of assessing our students' mastery of vocabulary words. As you know, among the keys to student learning are varied exposures to new words and always ensuring a meaningful context for those exposures. Those principles also serve as guidelines for your assessments.

⁵⁴ Ibid p. 35.

⁵⁵ Ibid p. 3.

⁵⁶ Ibid p. 6.

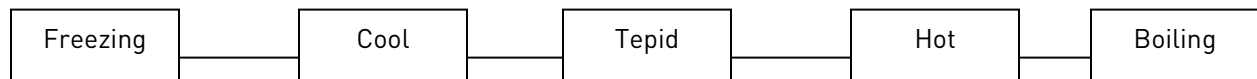
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Vocabulary assessments, like vocabulary instruction, should not focus on rote memorization, but rather the layers involved in really knowing a word. Consider the following examples, all of which force students to think of the meaning of the word within a larger context:

- The opposite of _____ is *subtle*. What is the word? What does *subtle* mean?
- Explain the literal and figurative definitions of the word *virulent*. Give an example of each.
- Match the picture to the vocabulary word each picture best represents.
- Would it be possible to *assuage* a parking ticket? Why or why not?
- Identify something that is *arid*. Explain why it is so.
- Give an example of a *perfunctory* action. Explain why it is so.
- Ask students to place vocabulary on a continuum, and to explain their placement of the various words.⁵⁷

I created an in-class game called Thumbs Up. Anytime I would say a vocabulary word or read one in a book, they would give a "thumbs up." We would stop what we were doing and talk about the word. The highlight of my year was at an assembly with our principal: she said one of our words and about 70 thumbs went up. I later explained why that happened, and she was impressed.

Craig Brandenburg, Houston '01
5th Grade



By building our students' word recognition and vocabulary, we are setting them up to be more "fluent" readers, a crucial skill discussed in the next section.

III. Fluency: The Bridge from Decoding to Comprehension

Remember that fluency is defined as the ability to read a given text with appropriate accuracy, speed, and expression. The umbrella skill of **fluency** can be broken down into **automaticity** (rapid and automatic word recognition) and **prosody** (reading with engaging expression and recognition of punctuation). One way some teachers help students understand the concept of fluency, and reflect on whether or not they are fluent readers, is to ask, "did you read it like you talk?"

Fluency is one of the key indicators of a proficient reader, as it is necessary for true comprehension of a text. As explained earlier, if a student spends time sounding out words or stringing syllables together, her slowed pace prevents her from being able to focus on the overall meaning of what she is reading. Research shows that "since the average individual can hold only seven to ten bits of information in short-term memory, the disfluent reader expends cognitive energy primarily on figuring out words and pronunciations. This leaves little memory capacity to focus on comprehending the information."⁵⁸ When a reader's decoding skills are automatic, her cognitive energy can be spent on making meaning of the text.

⁵⁷ Ibid p. 52.

⁵⁸ Block, Cathy Collins and Michael Pressley. *Comprehension Instruction: Research-Based Best Practices*. New York: The Guilford Press, 2002.

Therefore, to help our students comprehend a text, we must focus on building automatic recognition of words and overall fluency. While fluency is the bridge between decoding and comprehension, the ability to simply decode words doesn't necessarily make a student fluent and therefore able to comprehend a passage; it is the *repeated exposure* to words they can decode that leads to automatic recognition and thus the beginnings of comprehension. The amount of exposure necessary to move a word into one's "automatic recognition bank" varies based on the level of reader:

For students who are quickly becoming independent readers, they may need to see a word about ten times before it moves into their bank of easily recognized words. However, our dependent readers who are struggling with word recognition may need to see this word as many as forty times...these students, more than any others, must have repeated and regular opportunities to read stories at their independent reading level.⁵⁹

Although we'll talk more about ways to build students' fluency in the next section, one general principle for increasing students' fluency is frequent and varied reading of selections at the independent reading level. In general, texts at the frustrational level should be avoided or used only when significant support in comprehension is provided, as discussed in chapters three and four.

Strategies to Increase Fluency

In an elementary classroom, strategies to increase students' fluency include (1) modeling appropriate fluency during teacher read-alouds, (2) choral reading (when the teacher and students read out loud together, therefore highlighting the pauses that happen for commas and periods), (3) building the number of words students can recognize on sight and read automatically and (4) giving students opportunities to read "just right" texts (texts that are on their independent level) either during sustained silent reading time or at home. Many of these same strategies, modified for secondary students, will help build your students' fluency as well.

Strategy #1: Model good fluency.

Because "students need to hear fluent reading in order to become fluent readers,"⁶⁰ one important but simple strategy is to read aloud to students, modeling appropriate expression, phrasing, and pacing. Fluency expert Timothy Rasinski, author of *The Fluent Reader*, notes:

When you draw attention to how you're reading, you help students see that meaning in reading is carried not only in the words, but also in the way the words are expressed. For example, you might contrast a fluent rendition of a passage with a disfluent, labored, and word-by-word reading of it, then ask the students which reading they preferred and why. Without a doubt, the students will pick the more fluent reading. This becomes an important lesson in how they should read orally when given the opportunity.⁶¹

My 7th grade science textbook happened to come with a CD of various voices reading each section of the text. I honestly didn't know at first why having the students listen to the CD while following along in the text helped their comprehension. But it did. And, my students quickly preferred listening to the clear smooth reading of the voices, rather than the more halting, quiet reading of their classmates. My students and I eventually realized—and discussed—that by listening to the CD, every student's brain could focus on understanding what they were hearing, thereby increasing comprehension.

Margaret Cate, D.C. '98
Selection Associate, Teach For America

⁵⁹ Beers, Kylene. *When Kids Can't Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 205.

⁶⁰ Ibid, p. 215.

⁶¹ Rasinski, Timothy. *The Fluent Reader*. New York: Scholastic, 2003, pp. 26-27.

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This doesn't mean that you teach a whole lesson on fluent and choppy reading, or that you spend the class period reading the whole physics chapter to students. However, if many of your students struggle with fluency, you might read a section of the text out loud and point out that your voice rises at the end of sentences that are questions, that you take a breath between phrases, or that you emphasize the text inside dashes. For a secondary teacher, this sort of instruction should occur only when necessary and occur in a matter of minutes during a lesson. While students are listening to a passage being read aloud, they should follow along under the text with their pencil or pen. This highlights the phrasing and pauses for punctuation employed by good readers, as students' pencils should pause at the appropriate points too. This strategy has a side benefit as well: a quick glance up while you are reading will show you which students are on task and following along.

Having students read aloud together, what is commonly called "choral reading" and used frequently in elementary classrooms, also builds fluency. If your text includes a dialogue, you might assign different groups of students to chorally read the words of a particular character. By reading a conversation between two characters as a group, the voices of the more fluent readers in the room will guide students who are struggling with fluency.

Books on tape are also excellent tools for giving students an opportunity to hear a variety of voices read in a fluent manner. If books on tape or a textbook on CD aren't readily available, make your own. If you can, entice other teachers at your school to read a passage into a tape recorder – not only will students have the opportunity to hear a fluent reader, they'll get a kick out of hearing the math teacher or school secretary read to them! Consider the results produced by using a book on tape in the seventh grade science classroom of Aaron Pomis (North Carolina '02). Clearly, the effects went beyond increased fluency in his students:

Only one-third of my homeroom students had passed the sixth grade North Carolina End of Grade Reading Test the year before, and the rest of my 120 seventh grade students were not much better off. To combat this lack of reading proficiency, we began listening to *The Hot Zone* on tape during our human body unit. The book gives detailed accounts of Ebola outbreaks in Africa and the United States. Student spent time listening intently and then working in groups, where they practiced asking questions, making predictions, drawing connections, creating illustrations, and developing summaries. Students were assessed weekly on both the book's science content as well as their own comprehension skills. By listening to the book on tape, which allowed them increased practice in reading comprehension strategies because they weren't struggling with simply reading the words on the page, my students achieved the school's highest increase in reading scores on the seventh grade End of Grade Reading Test.

You may wonder if listening to the teacher read aloud, requiring students to follow along with their pen, "reading" a book on tape, or engaging in choral reading makes secondary students feel "dumb." Corps members report that when they are open and honest with students about the need to improve their reading skills, and ensure students are aware of the goal they are shooting for, students typically respond positively. Shannon Saunders (Rio Grande Valley '03) agrees: "You have to be real with your kids. Some strategies might seem babyish at first to middle or high school students, but when you're honest with them about their literacy levels, and they understand the end goal, then they will be much more invested."

Strategy #2: Use word walls to increase the number of words students recognize “automatically.”

Remember that instant recognition of words is one of the key ingredients of good fluency, which explains why this strategy, first introduced in the section on word recognition, is reiterated here. Word walls build the number of words students recognize automatically, which leads to improved fluency. To build fluency in reading your content area texts, your word wall should include the “tier three” words of your subject, words should be organized alphabetically, and words should be in font large enough for students to easily read from their seats. And remember, word walls lose their utility when they become mere wallpaper in your classroom; you should refer to your word wall frequently while reading, during lectures and demonstrations, and as students work on assignments. Quick work with vocabulary flash cards also leads to automatic word recognition.

We have a word wall in my room at the very front and it grows from 10 to 240 by the end of the year. We constantly refer to it while we're doing read-alouds to characterize tone, mood, and feelings as well as utilizing the words in our own writing.

Martin Winchester, RGV '95
Chief Schools Officer, IDEA Public Schools

Strategy #3: Foster independent fluency through prompting, not correction.⁶²

It's not an uncommon scene: the struggling reader pausing and looking up expectantly to the teacher to supply the word, or other classmates jumping in and providing the word as she struggles through it. In the long run, these crutches cause dependence on the teacher and classmates, rather than a growing ability to determine a word. Instead of correcting, it is better for the teacher to prompt the student with the following statements or questions:

- Can you divide the word into syllables and sound it out that way?
- Do you see a part of the word you recognize?
- Can you get your mouth ready to say the first few letters?
- What word would make sense at this point?

If prompting with these questions doesn't do the trick, provide the student with the correct pronunciation of the word and ask her to read the entire sentence again, reading the troublesome word independently this time (as opposed to providing her with the word and then allowing her to read on). Teach students to add words like this to the class or individual word wall if it is a high frequency word for your content area.

Strategy #4: Track students' fluency over time with repeated readings.

Research shows that one of the best ways to improve fluency is through re-reading of texts.⁶³ This could mean reading a passage through to students out loud and then asking them to read it independently, or encouraging English students to reread their favorite short stories or novels during sustained silent reading time or for homework. Of course, you need to insert yourself in this process in order to track students' fluency growth over time; you might meet periodically (three times a year) and conduct the one to five minute Timed Reading Exercise explained in chapter one, charting their change in fluency rates and levels over time. As with any academic skill,

I track words per minute with my students, and made them a bar graph that they color in every time they read for me. They know that the higher that bar gets, the closer they get to improving their reading level. Coloring in the bar graph motivates many of them. It becomes a competition: the older, less fluent version of themselves versus the improving, faster reading, trying-to-get-their-reading-level-up version.

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⁶² Beers, Kylene. *When Kids Can't Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 217.

⁶³ Schoenbach, Ruth et al. *Reading For Understanding: A Guide to Improving Reading in Middle and High School Classrooms*. San Francisco: Jossey-Bass, 1999, p. 19.

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show a student her progress in that area and she will be more motivated to continue to work hard and improve. A sample “Chart for Tracking Students’ Oral Reading Rate” is included in the **Secondary Literacy Toolkit** (p. 10), which can be found online at the Resource Exchange on TFANet. ✖

Conclusion

This chapter has explored the most common areas of weakness in our secondary readers: word recognition, vocabulary, and fluency. As is hopefully now apparent, these three areas overlap significantly with one another. Word recognition, such as recognition of word parts, prefixes, and suffixes, will help with vocabulary. In order to have appropriate fluency, students’ must have strong word recognition skills. If fluency is strong, students are more likely to be able to focus on the meanings of the words and overall passage, which allows students to determine the meanings of unfamiliar vocabulary words through context clues. Strong word recognition, vocabulary knowledge, and appropriate fluency all lead to greater reading comprehension, the topic of the next chapter.

- Build word recognition by helping students break down words into manageable chunks, use meaningful word parts (affixes and roots) to decipher a word, and possess automatic recognition of words through use of word walls. Remember that cajoling students to “just sound it out,” or reading the word for the student when he stumbles with the pronunciation, proves an either ineffective or short-term solution to poor word recognition.
- Students’ vocabulary knowledge will increase if you abide by the following principles of effective vocabulary instruction: carefully choose a limited number of words and provide a direct, student-friendly explanation of their meanings, create meaningful interactions with the words in a variety of formats and contexts, and ensure the students have multiple exposures to the new words.
- Raise students’ fluency, the bridge between decoding and comprehension, by modeling good fluency, increasing the number of words students recognize automatically, prompting rather than correcting students when they stumble over a word, and tracking students’ fluency over time.

Helping All Students Become Independent Readers

Chapter Three

- I. Reflecting on Our Own Comprehension Strategies
- II. Characteristics of Independent Readers
- III. Characteristics of Struggling Readers
- IV. Moving Students from Struggling to Independent

Introduction

Thursday, end of period, U.S. history class:

“Ok class, for homework, you’re going to read pages 214 – 229 of Chapter 9, the section on the New Deal, and answer questions 1-3, 6, and 10 at the end of the chapter. We’ll have a short quiz at the beginning of the period and then we’ll have a class discussion. Come prepared to discuss! See you tomorrow.”

Friday, beginning of period, U.S. history class:

While students complete the ten-question quiz, Mr. Brunell quickly flips through the homework students slid into their section’s inbox as they entered the room. “Good,” he thinks, “most of them wrote down at least basic responses.” The timer dings and he collects the 10-question quizzes to be graded later. “Ok class, let’s talk about what you read last night about the New Deal. First, some basics – who introduced it, when did it happen, what did it involve?” At the front, Joe raises his hand and answers, “Franklin Roosevelt introduced it in the mid 1930’s.” “Ok, good,” Mr. Brunell responds, “Now someone explain some of the major effects the New Deal had on our country.” Silence. At the back, Patrick asks, “Can we open our books?” Mr. Brunell acquiesces, and students slowly flip open their books. Heads remain bowed while fingers scan down the paragraphs. “Come on class, you all read this last night and just had a quiz on it.” Mr. Brunell begins to pose question after question, but the only response is silence. “What cataclysmic event in US History led to the introduction of the new deal? What government agencies were created as a result? This is an interesting one - what branch of our government did Roosevelt try to expand when legislation connected to the New Deal was deemed unconstitutional?” Silence. A few students share responses such as, “The New Deal created the Tennessee Valley Authority” and “The New Deal created more jobs in road construction through the Civilian Conservation Corps,” clearly quoting directly from the textbook and demonstrating limited understanding. Sighing, Mr. Brunell begins to lecture on the introduction and implications of the New Deal. Later, he grades their quizzes and is disappointed by their low scores. “These kids just can’t read,” he laments.⁶⁴

Many secondary content area teachers don’t anticipate the responsibility of teaching students to comprehend texts. As we ourselves may have been taught, we assign pages 214 – 229 in the textbook, or pass out a photocopy of a newspaper article to be read for homework. We expect students to come to class the next day having read, comprehended, and analyzed the text and ready to actively participate in a class discussion. Assigning content area reading in this traditional way assumes that students are already effective readers with an arsenal of reading comprehension strategies to draw upon when engaging with texts. This assumption may be far from reality, as the fictional but representative vignette above illustrates. As explained in *Reading Next*, and quoted in an earlier chapter, “older struggling readers...lack the strategies to help them comprehend what they read. Such strategies include the ability

⁶⁴ Vignette modeled after Daniels, Harvey and Steven Zemelman. *Subjects Matter: Every Teacher’s Guide to Content-Area Reading*. Portsmouth, NH: Heinemann, 2004, p. 6.

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to grasp the gist of a text, to notice and repair misinterpretations, and to change tactics based on the purposes of reading. Other struggling readers may have learned these strategies but have difficulty using them because they have only practiced using them with a limited range of texts and in a limited range of circumstances.”⁶⁵

In this chapter, we will begin by putting our own reading strategies under the microscope in order to shed light on what it means to be an “independent reader.” Hopefully this will make visible the usually invisible comprehension strategies you, as an independent reader, most likely have been applying while reading this text, and probably would have employed had you been assigned the passage on the New Deal.⁶⁶ We’ll then discuss how an independent reader differs from the “struggling reader” we may encounter in our classrooms. Finally, we will explore teacher “think alouds,” one overarching strategy for explicitly teaching reading comprehension strategies to move struggling readers toward independence.

Decoding				Comprehension		
Book and Print Awareness	Phonemic and Phonological Awareness	The Alphabetic Principle and Phonics	Word Recognition	Fluency	Background Knowledge	Vocabulary
						Comprehension Strategies

I. Reflecting on Our Own Comprehension Strategies

As you are aware from early chapters, the sweeping generalization made by our fictitious Mr. Brunell in a moment of frustration, is just that, a sweeping generalization. As we discussed in chapter one, “reading” has several distinct layers that must be pulled apart in order to fully understand (1) what it means to read and (2) the different layers of support we might need to provide for students who are struggling with reading. Our U.S. history vignette above describes students who are certainly not lacking book/print awareness, and are most likely not struggling with decoding the words on the page, but are rather struggling with *comprehension*. So, the question becomes, what strategies do good readers use to comprehend a text, and how do we teach those strategies to our struggling readers?

Interestingly, as part of answering these questions, many reading researchers cite a close and synergistic relationship between researching comprehension strategies and reflecting on their own comprehension. Ellen Keene, author of *Mosaic of Thought: Teaching Comprehension in a Reader’s Workshop*, shares the following:

It has been over ten years since I began an immersion in professional literature and practical applications related to reading comprehension. Among many other effects, perhaps the most remarkable outcome of my exploration has been on my own reading. I read differently now than I did fifteen years ago. I have moved from a passive to an active stance. I am acutely aware of my own reading process, the questions and challenges I have for the authors I read, the awareness I have of moments of confusion and disorientation in the text, and the tools I use to confront that confusion...I know now that my reading is not some finite, predetermined ability, pace, or style that was programmed in Miss Gregg’s first-grade class. My thinking as

⁶⁵ Biancarosa, G. and C.E. Snow. *Reading Next—A Vision for Action and Research in Middle and High School Literacy: A Report to Carnegie Corporation of New York*. Washington, DC: Alliance for Excellent Education, 2004. <http://www.all4ed.org/publications/ReadingNext/ReadingNext.pdf>, accessed 7/1/2010, p. 8.

⁶⁶ Oh good, did you just ask yourself, “Am I an independent reader?” or “What strategies *do* I use?” If you heard that inner “voice” asking those questions, signs point to you being an independent reader.

a reader can be manipulated. I can make myself delve deeper, reflect more, remember more, make more conscious decisions about how I read and what I understand.⁶⁷

Indeed, one way to explore the strategies good readers use to comprehend a text is to reflect on how we ourselves make sense of a variety of texts.⁶⁸ To jump-start this process, please read the following passage. As much as possible, be *cognizant* about how you read the text:

The Batsmen were merciless against the Bowlers. The Bowlers placed their men in slips and covers. But to no avail. The Batsmen hit one four after another along with an occasional six. Not once did their balls hit their stumps or get caught.

What were some of the mental processes you engaged in while reading the text?

- Did you go back and re-read sentences?
- Did you notice yourself slowing down your reading pace?
- Did you ask questions, ranging from, “what the heck is this about?” to “what are ‘slips’?” and did you hear those questions being asked inside your head?
- Did you try to visualize how “balls” might “hit their stumps?”
- Did you infer this was about some sort of game, based on the apparent team names, and wonder if it was a game similar to baseball since there was talk of “balls” and “hitting” something?

If you were aware of some or all of these mental maneuverings, the comprehension strategies that most often are subconscious bubbled to the surface. These comprehension strategies are ones that good readers constantly draw upon to tackle texts, usually subconsciously, but sometimes quite consciously if the text presents challenges of structure, vocabulary, or background knowledge. The passage above was particularly challenging because of the novel vocabulary and your lack of background knowledge about the topic (we’ll tell you now, the passage was about the British game of cricket, although that information doesn’t help all that much because you probably still have little understanding of the vocabulary used). However, you did your best to make sense of it by relying on a variety of different comprehension strategies – comprehension strategies that are commonly used by all independent readers, and that we’ll define in the next section.

II. Characteristics of Independent Readers

Perhaps what most separates independent readers from the rest of the pack is the belief that reading is an active process. In the book *Subjects Matter*, authors Harvey Daniels and Steven Zemelman assert, “readers actively build and construct meaning from a text. The meaning does not simply reside on the page, ready to be understood whole, nor is it a message simply “sent” by an author and “received” by reader.”⁶⁹ High school English teacher Cris Tovani and author of *I Read It, But I Don’t Get It* has giant purple letters above her chalkboard that say, “Reading is Thinking,” because she knows—and wants her

⁶⁷ Keene Ellin Oliver and Susan Zimmermann. *Mosaic of Thought: Teaching Comprehension in a Reader’s Workshop*. Portsmouth, NH: Heinemann, 1997, p. 5.

⁶⁸ The following section was modified from Daniels, Harvey and Steven Zemelman. *Subjects Matter: Every Teacher’s Guide to Content-Area Reading*. Portsmouth, NH: Heinemann, 2004, p. 21.

⁶⁹ Daniels, Harvey and Steven Zemelman. *Subjects Matter: Every Teacher’s Guide to Content-Area Reading*. Portsmouth, NH: Heinemann, 2004, p. 23.

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students to know—that “when readers construct meaning, they do so by way of deliberate, thoughtful cognition.”⁷⁰

Researchers have come to understand the wide variety of strategies that readers use to construct meaning by asking adult volunteers to “think aloud” as they go through a text. Further studies have found that although comprehension involves more than 30 cognitive and metacognitive processes,⁷¹ good readers use only a small handful of these consistently to help them understand what they read.⁷² Let’s put names to the usually subconscious comprehension strategies we teased out of our brains with the passage about the cricket match, and that researchers generally agree are the most commonly used:

- **Self-Monitoring for Meaning.** Recognizing when you understand what is going on and when you are confused; recognizing when you have stopped paying close attention to the text and therefore need to re-read; slowing your reading pace when confused, speeding up when comfortable with the content and vocabulary.
- **Making Connections.** Connecting information or events in the text to your own personal experience (a *text-to-self* connection), to other texts (a *text-to-text* connection), or to your background knowledge about the topic (a *text-to-world* connection); these connections, when related to the central concept of the text, deepen comprehension.
- **Asking Questions.** Asking questions to clarify meaning, wonder what will happen, or speculate about the author’s intent, style, content or format.⁷³
- **Inferring.** Using background knowledge to hypothesize, interpret, or draw conclusions from the events, information, or clues in the text.
- **Making Predictions.** Anticipating what will happen next in the story or what will be explained next in informational text, based on knowledge of genre, character type, or familiar sequences.
- **Visualizing.** Creating mental pictures of what is happening in the text.
- **Summarizing.** Restating the key points of a passage into a concise statement, which involves eliminating less important details.

Independent readers employ these strategies before, during, and after reading a text, and manifest other skills as well, as the following table details.⁷⁴ As you review the points, ask yourself which of the following you do automatically. The more “meta-cognitive” you can get about your own reading, the easier it will be for you to model these strategies to your students.

⁷⁰ Tovani, Cris. *I Read It, But I Don’t Get It: Comprehension Strategies for Adolescent Readers*. Portland, ME: Stenhouse Publishers, 2000, p. 18.

⁷¹ Block, Cathy Collins and Michael Pressley. *Comprehension Instruction: Research-Based Best Practices*. New York: The Guilford Press, 2002, p. 3.

⁷² Ibid p. 13.

⁷³ Keene Ellin Oliver and Susan Zimmermann. *Mosaic of Thought: Teaching Comprehension in a Reader’s Workshop*. Portsmouth, NH: Heinemann, 1997, p. 110.

⁷⁴ Riggs, Ernestine. *Helping Middle and High School Readers: Teaching and Learning Strategies Across the Curriculum*. (What We Know About Series.) Arlington, VA: Educational Research Service, 2001, p. 5.

	Independent Readers...
Before Reading	<ul style="list-style-type: none"> • Recognize that we read for a variety of purposes, such as to get information or for enjoyment. • Preview the text before reading, looking over the table of contents, jacket summary, chapter headings, bolded vocabulary or concepts, and important terms in margins. • Make predictions by looking at clues in the illustrations, headers, or chapter titles. • Recognize genre conventions in text – the characteristics of a poem, story, novel, newspaper, or textbook – and then approach the reading appropriately.
During Reading	<ul style="list-style-type: none"> • Believe that reading requires active engagement on the part of the reader and that meaning does not just materialize from decoding the words on the page. Consequently, they apply a wide variety of comprehension strategies to make sense of a text: <ul style="list-style-type: none"> ○ Recognize through self-monitoring when the text is not making sense ○ Search for connections between their prior knowledge and the new information they encounter in the texts they read ○ Ask questions of themselves, the author, and the text as they read ○ Draw inferences during and after reading ○ Visualize details and events in a text • “Hear” the text as they read the words, and conduct an internal dialogue about the text. • Adjust reading rate based on the purpose of reading and the level of text difficulty. • Read fluently and with appropriate expression. • Successfully apply word attack strategies and use context clues when encountering vocabulary with which they are unfamiliar
After Reading	<ul style="list-style-type: none"> • Summarize and paraphrase information from text in their own words. • Answer questions based on the information they learned from reading the text. • Challenge the author, often with the ability to identify biases and distortion. • Express opinions based on text.

Given that we, as proficient, independent readers, do most of these things without thinking about them, the danger exists that we might assume that our students already have the same abilities, and therefore merely *assign* reading, rather than *teach* reading. Let’s examine some of the hurdles we’ll have to overcome with our struggling readers.

III. Characteristics of Struggling Readers

If you were to survey a group of struggling readers about what they do when they read, you’d get a range of responses, perhaps including statements such as, “I skip words I don’t know,” “I read the words even though I don’t know what they mean,” or “I read fast so I can get to the end of the chapter and answer the questions.” If asked what separated them from students who they thought were “good” readers, they might shrug and say, “they just get what the story is about – I don’t.” Remember the most fundamental difference between independent and struggling readers: their belief (or lack thereof) that “reading is thinking” and that true comprehension requires application of a range of cognitive processes.

Of course, struggling readers could be struggling with more than just the application of comprehension strategies. As explained in an earlier chapter, one key piece of reading is decoding, so struggling readers may have limited phonemic awareness (the ability to think about individual words as a sequence of spoken sounds or phonemes). Struggling readers may lack word attack skills and have low fluency, which then impacts

My struggling readers believe that ‘reading’ involves moving the eyes and occasionally moving the mouth and nothing more. They haven’t realized (or they haven’t been taught) that reading involves an internal dialogue with multiple voices. One voice reads the words, either audibly or mentally, while other voices question, respond, and critique.

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comprehension, as being “glued to the print” leaves little cognitive space to focus on meaning. The following table captures a struggling reader’s behavior before, during, and after reading a text.

Struggling Readers...	
Before Reading	<ul style="list-style-type: none"> • Begin to read without thinking about the topic or without setting a purpose for reading. • Do not preview the text and activate prior knowledge by looking for key vocabulary or surveying the text structure (chapter titles, headings, charts, graphs). • Do not know about different genres and how one approaches reading differently based on the genre. • Lack interest and motivation to begin.
During Reading	<ul style="list-style-type: none"> • Do not realize that reading requires active engagement on the part of the reader, and that “good readers” struggle to make meaning of texts. • Do not know when comprehension is not occurring, or do know but don’t know how to apply comprehension strategies: <ul style="list-style-type: none"> ○ Do not visualize details or try to make connections between the text and prior experiences or knowledge ○ Assume that the author’s interpretations are correct and do not ask many questions of themselves, the author, or the text ○ Assume that the meaning is restricted to what is literally written on the page and do not “read between the lines” ○ Are not able to distinguish between important events/facts and details; may emphasize the more interesting ideas over important ones • Read slowly, sometimes one word at a time, without paying attention to punctuation and without expression. • Read too quickly, disregarding punctuation, substituting or skipping unknown words without stopping to clarify pronunciation or meaning. • Read to finish (or get to the questions at the end of a chapter) rather than to understand. • Do not “hear” the text when reading silently.
After Reading	<ul style="list-style-type: none"> • Do not understand how the pieces of information fit together. • Read a passage only once and believe they are finished. • May focus on extraneous, peripheral information. • See reading as distasteful.

Clearly, there could be several hurdles to overcome when working with struggling readers in your secondary language arts, science, or math classroom, but many are hurdles that can be overcome with direct instruction on the strategies of an independent reader. In the next section, we’ll explore teacher “think alouds,” a key strategy for moving struggling students to independence.

IV. Moving Students from Struggling to Independent

How do you, as a secondary content area teacher, teach the comprehension strategies your struggling readers need to become independent readers? The key word is “explicitly.” Rather than just telling our students to summarize, draw inferences, make connections, or ask questions, those strategies must be explicitly explained, modeled, and practiced with a variety of texts. As Kylee Beers, author of *When Kids Can’t Read: What Teachers Can Do*, states,

We don’t help dependent readers when our instruction is limited to, “Don’t forget to predict,” or “It will help if you visualize,” or “Look for the causal relationships.” Instead, we’ve got to show these students how we use strategies to enhance our understanding of a text as we “think aloud” a text for them...education is not a Nike commercial: you can’t say, “Just do it.” Instead, we must show students how to do it.

How do you show that reading is a process that requires the reader to exert purposeful effort? You open your mind to your typically invisible thoughts, by sharing your inner thinking voice in a “think aloud.” Consider the following steps in a “think aloud” mini-lesson on reading comprehension strategies that any secondary content area teacher could deliver:⁷⁵

1. Decide what specific strategies you want to model and what text you will use to model that strategy. Recall the list of reading comprehension strategies in section one of this chapter. Note that reading researchers disagree on the order in which they should be taught, although self-monitoring for meaning is certainly foundational, as is making connections and asking questions (since our struggling readers don’t realize that good readers often have questions about what they read). Choose the specific strategy you will model, given the weaknesses you have identified in students and the particular text you are currently using. Focus in on one, or at the most two, comprehension strategies, as opposed to trying to model several at once. Then, go through that text, being cognizant of how you apply that strategy to comprehend the text. Some people might argue that a “cold” reading of a text will allow a “think aloud” to be truly authentic. However, for your modeling to be truly purposeful and comprehensive, it is important to plan out what you will think out loud—even with sticky notes at various points on the text—ahead of time.

2. Tell your students exactly what strategy you’ll be practicing while reading the passage. Students should have a copy of the passage in front of them so they can follow along as well. Below is an example of how a secondary earth science teacher might introduce a “think aloud” that models the effective use of making connections in a passage from a science textbook:

While I read this section of the textbook on how lightning is formed, I’m going to practice making connections between what the author says about how lightning is formed and things I know about in my every day life. This is an example of a text-to-world connection. Those connections will help me understand the passage, because I’ll be relating something I don’t currently know a lot about to things I do know and understand. Good readers are always making connections to what they know when they read.

Watch how I stop at various points in the text to make connections between what I’m reading and what I’m thinking in my head as I read. Remember, reading is thinking! I’m going to articulate exactly what would have gone on just inside my head – but I’ll say it out loud so you can hear my thinking. Please follow along in the text as I read out loud and think out loud, and mark the points where I stop to make connections with a star. After this, you’ll be given an opportunity to read the text to yourself to make your own connections.

To help struggling readers truly see when you are reading from the text and when you are thinking about the text, some teachers strike a “thinking pose” by putting a finger to their temple, hold a “thought bubble” above their head, or put on a “thinking cap” when they are making their invisible thoughts visible to the class. Such strategies help students clearly see the internal dialogue that goes on in the heads of independent readers.

⁷⁵ Following section modified from Beers, Kylene. *When Kids Can’t Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 42.

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3. Read the passage to students, modeling the strategy or strategies to students. We'll continue with the same earth science teacher as she models making connections while reading a passage from the earth science textbook about how lightning is formed. The italicized text is what the teacher says out loud to illustrate her thinking. She chooses to simply set the textbook down and look pensive when sharing her thoughts:

How Lightning Is Formed

The first process in the generation of lightning is the **separation of positive and negative charges** within a cloud of air. *(Separation of positive and negative charges...that reminds me of how a battery has a positive end and a negative end.)* The mechanism by which this happens is still the subject of research, but one widely accepted theory is the polarization mechanism. This mechanism has two components: the first is that falling droplets of ice and rain become electrically polarized as they fall through the atmosphere's natural electric field, and the second is that colliding ice particles become charged by **electrostatic induction**. *(Electrostatic must be like when you have static cling or get a shock from someone. I think my brother was inducted into the honor society, meaning he was introduced and allowed into the group. It sounds like the atmosphere, which is charged I guess, introduces a charge to the ice and rain. Huh.)* Once charged, by whatever mechanism, the positively charged crystals tend to **rise to the top** causing the cloud top to build up a positive charge, and the negatively charged crystals and hailstones **drop to the middle and bottom layers of the cloud** (Yup, it sounds like the charges are separated just like they are in a battery), building up a negative charge. Cumulonimbus *(Cum-u-lo...let me try that again...Cum-u-lo-nim-bus...I don't know what type of cloud that is, but I don't think it is really important for me to understand how lightning forms)* clouds that do not produce enough ice crystals usually fail to produce enough charge separation to cause lightning.

The second process is the buildup of positive charges on the ground beneath the clouds. The earth is normally negatively charged with respect to the atmosphere. But as the **thunderstorm** passes over the ground *(Huh. That is the first time a thunderstorm has been mentioned. But, I guess usually when I see lightning I hear thunder before it...)*, the negative charges at the bottom of the cumulonimbus cloud cause the positive charges on the ground to gather along the surface for several miles around the storm and become concentrated in vertical objects including trees and tall buildings. **If you feel your hair stand up on end** in a lightning storm, beware. *(I've felt that, but not in a storm! I remember when my uncle rubbed a balloon on my head at my birthday party and then pulled it away a little bit – I could feel my hair stand on end!)* The negative charges from the cloud are pulling the positive charges inside your body to the top of your head and you could be in danger of being struck.

The third process is the generation of the lightning. When sufficient negatives and positives gather in this way, an **electrical discharge** occurs within the clouds or between the clouds and the ground, **producing the bolt** *(So the bolt of lightning is produced when enough negative and positive charges build up. Maybe just like if you scuff your feet across a rug*

We used "think alouds" during all reading activities. We especially used "think alouds" when reading the science textbook, as making connections and summarizing information while stumbling over difficult words was an everyday challenge. When I ignored that challenge in the beginning of my first year, my students floundered and had to find ways around the text. When I challenged them daily in my second semester, my students learned to overcome the challenge.

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enough, you build up the charge in your body, and then you'll get a shock – kind of like a mini lightning-bolt – when you touch something...].⁷⁶

4. Debrief the “think aloud.” After your “think aloud,” debrief the process and the benefits of using that strategy with your students.

Ok class, what was I doing when I stopped and shared my thinking at various points in the text? That's right, I was connecting something I read in the text – something I didn't understand fully – to something I knew more about in my life. That helped me understand what I was reading better. Can someone look back in the text and tell me a time when I stopped to make a connection, and explain the connection that I made? Right. Can someone else make a connection to something in your life at that same point in the text? Great. Now, how did that help you comprehend the information in that sentence? Oh, so you got a visual picture of a battery next to a cloud? Interesting. So making that connection also caused you to visualize what was being explained in the text about the cloud. That is great – visualizing is another strategy that good readers use...

5. Give your students multiple chances to practice the strategy you've demonstrated with other real reading situations. As with the mastery of any skill, your students need to practice the skill multiple times with others and independently. In our example earth science class, they might practice making their own connections first with this same passage the teacher used, sharing with the class afterwards or “putting on their thinking caps” with a partner. Then, they might practice, independently or with a partner, with the next few paragraphs, this time without any connections made by the teacher to help shape their thinking. (In the next chapter, you'll learn specific methods that will prompt students to apply various comprehension strategies before, during, and after reading.) Because students' use of comprehension strategies needs to be constantly reinforced, especially when different types of texts are used, it would be important to provide future opportunities to focus on the skill of making connections with other texts.

Additional Considerations for Teaching Comprehension Strategies

A think aloud ensures that the comprehension process used by proficient readers is not a mystery to our struggling readers. However, to ensure we are not producing a shallow understanding or use of a comprehension strategy, and therefore producing only shallow improvements in comprehension, consider a more nuanced view of each strategy and how to teach it:

- **Self-Monitoring for Meaning.** One of our first tasks is to guide students to monitor their own comprehension, so each student can “know when you know, and know when you don't know.” Before students can fix a comprehension problem, they have to know it's there. Therefore, teaching students to monitor for meaning should be a major focus of your reading instruction, particularly at the beginning of the school year. Beginning and struggling readers need to understand that admitting when understanding breaks down is nothing to be ashamed of—in fact, it is a model behavior for good readers. Of course, you will model this for your students in a

One entire wall of my classroom is dedicated to reading strategies. At the top a banner says, “I read it but I don't get it! What should I do?” I had my students make a poster for each reading strategy we've talked about (asking questions, visualizing, etc.). The kids love it and I see them look over at the posters all the time while they're reading. Since the posters take up an entire large wall, this display also visually indicates the importance of thinking while reading.

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7th Grade English

⁷⁶ <http://en.wikipedia.org/wiki/Lightning>, accessed 7/1/2010.

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“think aloud” by saying, “You know, I don’t think I understood that last bit. It didn’t really make sense to me. I think I need to re-read that confusing part.” You will stop a student reading out loud to the class and ask, “Do you understand that?” And finally, after much modeling and prompting, you will congratulate your students on being excellent thinkers when they look up at you with furrowed brows and say, “I don’t get this.”

- **Making Connections.** Through modeling, you will need to show students that making connections to your personal experiences, to a previously read book, and to background knowledge can help you understand what you are reading. As our teacher above stated repeatedly, “I was connecting something I read in the text – something I didn’t understand fully – to something I knew more about in my life. That helped me understand what I was reading better.” Matt Kelley (Mississippi Delta ’02) teaches eleventh grade English and reports that his “students enjoy making connections because this strategy allows them to see how a text relates to their life and helps them ‘get into’ a story.” Because many students tend to latch on to an unimportant detail without considering whether the connection aids their comprehension, you will need to challenge students to make meaningful connections that relate to the central concept of the passage. You might explain and model that some connections are small (they relate to a little detail that isn’t that important to the story), while other connections are big (they relate to the big idea of the whole story). Then, you could ask students to determine whether sample connections are small and less meaningful, or big and more meaningful.
- **Asking Questions.** Many of our struggling readers assume that good readers are never confused about the meaning of a book, and they are shocked to learn that good readers always have questions about their reading. We must break down this misconception through modeling. Once you have encouraged students to ask questions, you will probably find that they have a million! Consequently, you will need to teach students how to identify the questions that are most central to an understanding of the reading. You might help students distinguish between thick questions (those that are about key points and concepts) and thin questions (those that seek clarification of minor points).⁷⁷ Thick questions often begin with *why* and *how come* or could address large content area issues, such as “*Why was the Boston Tea Party important?*” Thin questions, such as “*What year did the Boston Tea Party happen?*” can often be answered with a short, simple response. Stephanie Harvey and Anne Goudvis, authors of *Strategies that Work*, recommend having students write their thick questions on large sticky notes and their thin questions on smaller sticky flags to help them “separate broad concepts from smaller issues of clarification.”⁷⁸ Finally, you might point out to students that the most interesting and important questions are often those that we can’t answer simply by looking back in the text but that require further research.
- **Inferring.** As Harvey and Goudvis tell us in *Strategies That Work*, “Inferring is the bedrock of comprehension, not only in reading...Inferring is about reading faces, reading body language, reading expressions and reading tone, as well as reading text.”⁷⁹ When students know how to use their background knowledge and textual clues, they can extrapolate meaning that is not explicitly stated. Particularly for deep, thought-provoking literature, the meaning of a passage is almost always hidden “between the lines,” and students will only be able to understand that meaning if they are adept enough at making inferences to read between those lines. However, multiple inferences are necessary even when reading a simple paragraph like the one on the following page:

⁷⁷ Harvey, Stephanie and Anne Goudvis. *Strategies that Work: Teaching Comprehension to Enhance Understanding*. Portland, ME: Stenhouse Publishers, 2000, p. 89.

⁷⁸ Ibid p. 90.

⁷⁹ Ibid p. 105.

He put down \$10.00 at the window. The woman behind the window gave him \$4.00. The person next to him gave him \$3.00, but he gave it back to her. So, when they went inside, she bought him a large bag of popcorn.⁸⁰

You probably *inferred* from this passage that a man and a woman are going to the movies. Since the woman behind the window gave the man \$4.00 change for his \$10.00, the tickets must have cost \$6.00 total or \$3.00 each. (You probably wondered where one can still see a movie for \$3.00.) The man's date wanted to pay for her own ticket, but he refused her offer. Instead, she bought the popcorn. This process required you to make several different inferences: both ones based on background knowledge (knowing how it works at the "window" of a movie, knowing that people usually buy popcorn at a movie) and ones based on the text (determining who the pronouns referred to, why the woman bought the popcorn). You'll need to model the process of making inferences for your students using a simple text like the one above, explaining the different types of inferences that can be made, and how many must be made to understand a text.

- **Making Predictions.** Many readers make predictions naturally. Struggling readers, however, "don't predict what the selection might be about...they simply open a book, look at the words, and begin turning pages."⁸¹ You may need to model the process of making predictions for your students and give them opportunities to practice in a supported manner (for example, by using the Probable Passage strategy shared in the next chapter). You should also push your students to make sophisticated predictions and think critically about the text by asking them to explain the thinking behind their prediction.
- **Visualizing.** Make students aware that illustrators, textbook artists, and photographers use this particular comprehension strategy when they receive the author's text and decide which pictures should accompany it. When students are just beginning to visualize, it helps to offer specific suggestions for when they might make a mental picture, such as, "Make pictures in your mind about this particular character," or "Make pictures in your mind about what we're learning about the water cycle." Additionally, asking students to sketch their mental images will help you assess their comprehension.
- **Summarizing.** In order to summarize effectively, students must be able to determine what's important in a text, to comprehend the essence of a passage, and to remember and retell what they have read in a logical, coherent manner. You may need to start small in this process, showing students how to summarize an individual paragraph before moving to an entire story or article.

When I found out that I would be teaching 7th Grade English and History, I was most excited by the idea of pushing my students to think critically and analytically about the ethical/social questions brought up throughout history. What I wasn't expecting was that, in order to do this, we would have to first conquer a text using a myriad of comprehension strategies. Only after my students struggled through figuring out what the text was actually saying could we move on to the kind of discussions that pushed their thinking beyond the text's borders.

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Director of Service Learning,
The Urban School of San Francisco

After reading through the process of a "think aloud" and considering the other strategies to teach your students, you may be thinking, "But I'm a social studies teacher and I have so much history content to teach my students! How am I going to also teach these strategies?" The answer is with strategic

⁸⁰ Beers, Kylene. *When Kids Can't Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 63.

⁸¹ Ibid p. 87.

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planning, and recognition that if you don't teach these strategies, you will not be able to teach as much content to your students. Instead, you will have to spend more time making sense of the text *for* students, like Mr. Brunell in our opening vignette. Consider the assertion made by the authors of *Subjects Matter*:

Understanding what we do now, we will teach reading, not just assign it, though that doesn't mean we are turning into reading teachers. We are specialists – science, math, history, art, music, foreign language people – to the bone. The difference is, we'll break the work up into steps for the kids, and provide help along the way. We'll be using methods, tools, activities, and procedures that help our students understand and remember our content better.⁸²

English teachers should also avoid falling into the trap of making sense of texts for students. Consider the reflection of Felicia Cuesta (Los Angeles '02), a former 7th grade English teacher:

When I first envisioned my role as a secondary English teacher, I thought that it would involve reading novels together and engaging in deep discussions about their literary merits. Once I entered the classroom, however, this changed, as I realized that my students read significantly below grade level. My students could decode decently, but they did not comprehend what they were reading. At first, my lessons consisted of the class reading the text together in a read-aloud and with me explaining everything that had just happened in the story. By the end of my first semester, we had gone through an entire novel and several short stories and poems, but I was not thoroughly teaching or assessing the reading standards. Moreover, I knew that I was the one doing all the work; my students didn't have to comprehend the text because I ended up explaining it.

This changed during my off-track time when I went to a workshop that introduced the concept of "reading instructional time." The idea was that every day, we would spend time teaching my students how to read—not just how to sound out words, but how to really read for understanding. This is the essence of teaching Reading Comprehension, the behemoth English/Language Arts standard that is the cornerstone of any English class. The program explained that there are 7 "habits" of highly effective readers and by explicitly teaching these habits, you would teach students how to be "good" readers. I realized these habits are things that I, as a voracious reader, do all the time, but subconsciously. My epiphany was that if I train my students how to perform these habits consciously, it would become subconscious, thus boosting their reading comprehension in any material that they chose to read.

The next step was to explicitly teach each "habit," or comprehension skill in mini-lessons and reinforce them through modeling and student practice. I soon discovered a reading comprehension diagnostic that actually assessed each reading habit. After administering this diagnostic, I created on-going quizzes to assess my students on each reading skill and track their progress.

In summary, I realized that by just reading novels as a class and then explaining to my students what had happened, I was not giving them anything lasting, relevant or applicable. When I made the shift to teaching explicit skills, I was giving my students

⁸² Daniels, Harvey and Steven Zemelman. *Subjects Matter: Every Teacher's Guide to Content-Area Reading*. Portsmouth, NH: Heinemann, 2004, p. 32.

skills that they could apply to any text in any subject, from science to poetry, from newspapers to novels, from word problems to history textbooks. I could truly improve my students' reading comprehension in English, and I would improve their performance in every other subject as well, with any other type of text that they were required to read.

We close with a note of encouragement: if you're feeling concerned about your own ability to teach comprehension strategies to your students, remember that you yourself are an independent reader. The challenge for you as a teacher will be to think explicitly about the varied reading strategies you use, and then to teach those strategies to your students so that they can apply them to a variety of texts as well. You also bring another strength to this type of instruction. Given your content area knowledge, you are more adept than most people at making sense of the various texts in your content area. A math teacher can evaluate what is important in a math word problem, and a social studies teacher can make connections between primary source documents better than the average Joe. Don't underestimate your own abilities to demystify the particular strategies required to make sense of your course's texts. The key is to be cognizant of your own reading strategies, and then to teach those strategies to your students in mini-lessons throughout the year.

Conclusion

- Part of teaching your students to be independent readers will involve becoming more and more cognizant of your own reading strategies. As reading the "simple" cricket passage illustrated, you yourself use a variety of thinking strategies to make sense of a text. Hopefully that process has made you even more aware of the typically subconscious strategies you use. As teachers and authors who think about student reading comprehension have found, there is a positive feedback loop between reflecting on one's own reading strategies and teaching those strategies to others.
- The fundamental difference between independent and struggling readers is the degree to which those readers believe that "reading is thinking." Struggling readers need to be shown, taught, and encouraged to practice the thinking strategies that good readers employ, such as self-monitoring, asking questions, visualizing, making connections, making predictions, inferring, and summarizing.
- Purposeful "think alouds" are one highly effective strategy for making one's typically invisible comprehension strategies visible to struggling readers.

Building Comprehension Through Pre-, During-, and Post-Reading Strategies

Chapter Four

- I. Preparing for Comprehension: Teaching Text Structures and Patterns
- II. Activating Comprehension: Pre-Reading Strategies
- III. Constructing Comprehension: During-Reading Strategies
- IV. Extending Comprehension: Post-Reading Strategies

Introduction

In the previous chapter, we discussed our goal of creating “independent” readers. As you recall, independent readers are those who are constantly monitoring their understanding of the text as they read it. These individuals are predicting, questioning, clarifying, summarizing, connecting, and evaluating as they read, essentially engaging in a dialogue with the author and themselves in their minds. One overarching strategy for helping struggling readers see that reading to learn requires active engagement with the text is the teacher think aloud that was discussed in chapter three.

In addition to showing students the inner workings of a good reader’s mind, you will need to provide students with an array of concrete strategies they can use to *practice* the comprehension strategies used by an independent reader. Indeed, struggling readers need to be reminded again and again that they should be “reading with (their) mind as opposed to just reading with (their) mouth.”⁸³ Specific strategies that help students “read with their minds” are the focus of this chapter.

Hand-in-hand with teaching students specific techniques for practicing the skills of independent readers is reiterating to your students that reading is a process that starts before (and that does not end until well after) a student has a text in his or her hands. That is, reading is an active process that requires critical thought before, during, and after engaging the text. In your math, English, science, social studies, or language class, you should teach and model this complete approach to the reading process. In this chapter, we will discuss a variety of strategies that are employed before, during, or after reading a text to help students comprehend. Comprehension is critical: not only is comprehension of what you and your students read the key to reaching the content-specific goals of your long term plan, but helping your students to better read and comprehend the written word will greatly enhance their life prospects.

I. Preparing for Comprehension: Teaching Text Structures and Patterns

Before we discuss specific pre-, during- and post-reading strategies, one overarching key to comprehension is the understanding of a text at the structural and organizational level. As a content area teacher, one of your responsibilities will be to teach students how to learn from a textbook—or other form of reading material—that is replete with structural and organizational elements that either enhance comprehension (if used properly) or simply provide more confusing text on a page. Students who can understand text structures, meaning chapter titles, section headings and subheadings, bolded vocabulary, figures, captions, and keys, are much more able to access the information in a text. Donna

⁸³ Schoenbach, Ruth et al. *Reading For Understanding: A Guide to Improving Reading in Middle and High School Classrooms*. San Francisco: Jossey-Bass, 1999, p. 74.

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Ogle, literacy specialist and source of the now ubiquitous KWL Chart discussed in the next section, explains:

We also need to help students identify the structure and the organization of ideas in text. With fiction, most students can anticipate the structure of the story, but when they read informational text, even if it's about frogs and toads, readers don't know how the information will be structured. If students preview the materials and get a sense of...how the author decided to organize the information, then they can use that sense of organization and priority in their own learning.⁸⁴

Textbook writers “incorporate text structures believing that readers will use these supports in order to effectively make sense of the text. When students don't understand the purpose of conventional supports, they often miss flags that enable them to focus their reading, monitor understanding, and quickly retrieve text for study purposes.”⁸⁵ To prepare students to comprehend a text with the help of text structures, you should show them the purpose of text structures. For example, the purpose of the chapter title in a social studies, science, or math book is to illustrate the main idea of what students are about to read. In contrast, the purpose of a chapter title in a novel is usually to engage the reader and entice them to keep reading. You might use “hidden text structures” to help students predict and then analyze various text structures and their purposes (see p. 11 in the **Secondary Literacy Toolkit**, which can be found online at the Resource Exchange on TFA.Net). Or, at the beginning of the year you might have students complete a “textbook feature analysis” (see p. 12 in the **Secondary Literacy Toolkit** for an example) to introduce students to how the textbook is physically arranged and how various textual elements are used to cue the reader. ✂

I explicitly taught my 8th grade U.S. History students how to approach an informational textbook. We studied the structure of textbooks, the different signals that textbook authors give readers to show the comparative importance of words and sections, and the most effective ways to use chapter and section headings in previewing content. Once my students became more familiar with how informational texts are put together, they were better able to learn from the text.

Emma Doggett, RGV '02
Managing Director, Growth & Network Strategy
The Achievement Network

In addition to teaching students to notice the physical “signposts” of a text, you might teach students to recognize patterns of writing that are often contained in textbooks or other pieces of reading. Here is a non-exhaustive list of the various patterns used in writing:

- **Generalization/Principle:** a general statement followed by supporting ideas or arguments.
- **Chronological Sequence:** a chronological list of events or actions. Some examples include historical accounts or the steps to balance a chemical equation.
- **Comparison/Contrast:** a comparison of two or more things, such as the process of multiplication and division, or the role of women in World War I versus World War II.
- **Concept/Definition:** the introduction of concepts such as anarchy, imaginary numbers, or conservation of energy, and then definition through greater detail and examples.
- **Description:** the description of an event, process, or person, with elaboration on key characteristics.
- **Episode:** the “who,” “what,” “when,” “where,” “how,” and “why” of an event.

⁸⁴ D’Arcangelo, Marcia. “The Challenge of Content-Area Reading: A Conversation with Donna Ogle.” *Educational Leadership*, Vol 60 No 3, November 2002, p. 14.

⁸⁵ Allen, Janet. *Tools for Teaching Content Literacy*. Portland, ME: Stenhouse Publishers, 2004.

- **Cause/Effect:** an explanation of various causes and their corresponding effects, such as the discovery of gold as one cause of Westward Expansion, or the addition of salt to water having an effect on the freezing and boiling points of water.
- **Problem/Solution:** a description of a problem (such as a conflict between two characters, or insufficient supplies of petroleum) and a solution (how the characters resolved the conflict, an argument for alternative energy sources).

Signal Words: Clues to Structures

Good readers and writers play close attention to “signal words,” written cues that reveal the author’s intended text pattern and help the reader navigate a text. For example, signal words such as “as opposed to” and “even though” may indicate a Comparison/Contrast text pattern. Signal words such as “accordingly” or “may be due to” would indicate a Process/Cause-Effect text pattern. For a list of words that might indicate different text patterns that you can use with your students, see “Signal Words for Determining Text Patterns” in the **Secondary Literacy Toolkit** (p. 13); this Toolkit can be found online at the Resource Exchange on TFSANet. ✕

As a further example, consider the first of these, the “Generalization/Principle” pattern. This text structure—the idea that one starts with a general proposition and then provides several more specific supporting ideas for that topic—is fundamental to almost all expository writing and is illustrated in the following paragraph:

Teaching students to recognize particular text structures has an immense impact on their reading comprehension. These patterns help students comprehend what is most important in a text, see connections between ideas, and later apply these same text structures to their own writing.

Obviously, this simple (and true!) statement follows a basic pattern of written communication. We begin with the thesis and then we support it. As discussed above, students have to be taught such patterns. Students who understand them have a great advantage in being able to comprehend content-area reading, and they can then apply similar structures to their own writing, as we’ll discuss in chapter five.

So, how do I teach these “text structures” to my students?

Most successful literacy teachers use explicit instruction and graphic organizers to teach students text structures. As explained elsewhere, graphic organizers are visual depictions of ideas and their relationships to one another. As Brad Baxendell (North Carolina ’94) explains in his article, “Consistent, Coherent, Creative: The 3 C’s of Graphic Organizers,”

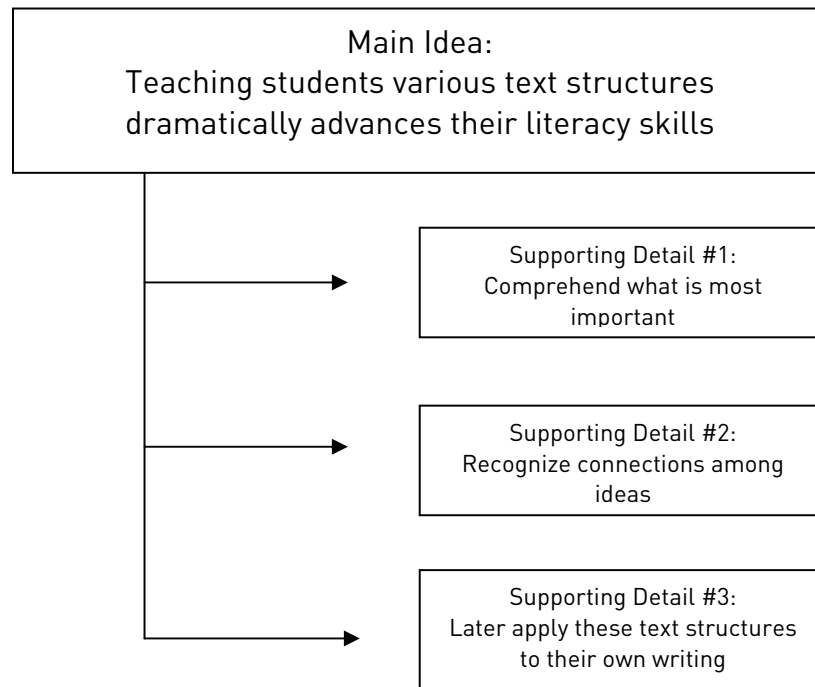
Graphic organizers help students see how ideas are organized within a text or concept. Learners can then apply this structure to their own ideas. Learners are thus better able to understand relationships between complex ideas or to arrange information to facilitate retention and recall.⁸⁶

⁸⁶ Baxendell, Brad. “Consistent, Coherent, Creative: The 3 C’s of Graphic Organizers.” *Teaching Exceptional Children*, Jan/Feb 2003, p. 46.

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For example, for the Generalization/Principle pattern illustrated by the paragraph above, the following graphic organizer would be a useful structure to help students analyze passages in the text with this text pattern:

Generalization/Principle

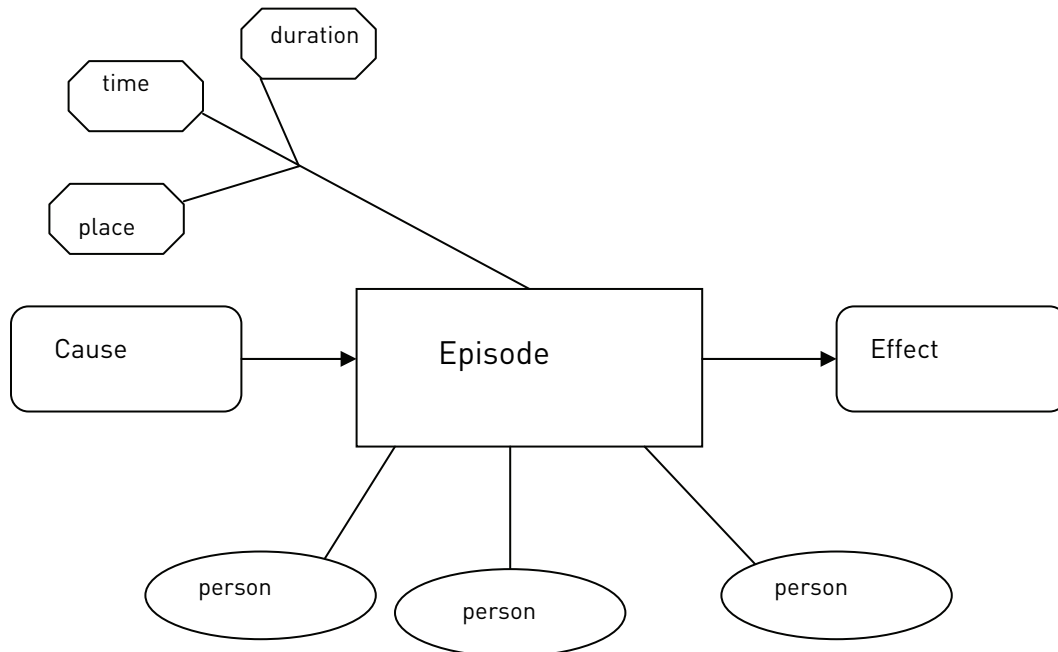


This Generalization/Principle text structure is one that certainly appears in all subject areas. Through practice reading texts and mapping the ideas with a graphic organizer such as this, your students will be come very familiar with (and therefore more adept at using in their own writing) the Generalization/Principle text structure. Engaging with reading and writing in this active manner will lead to longer and deeper memory of the content of the writing as well.

Similar pairings of text patterns and graphic organizers can be created for each of the text structures listed above. As another example, consider the "Episode Pattern." This text structure discusses the who, what, when, where, how, and why of an event. Those elements are indicated by the following questions:

- What event is being explained or described?
- What is the setting where the event occurs?
- Who are the major figures or characters that play a part in this event?
- What are the specific incidents or events that occur? In what order do they happen?
- What caused this event?
- What effects has this event had on the people involved?
- What effects has this event had on society in general?

One possible graphic representation of this text pattern, which could be a nice complement to a social studies lesson, might therefore be:



By providing opportunities for students to make a graphic representation—whether a picture, a model, a graphic organizer, or a mental image—researchers have found that the creation of these “non-linguistic representations” stimulates activity in the brain and boosts academic achievement by improving comprehension. This apparently is due to the fact that humans store data in two ways: through words and through images. By having students create graphic organizers or make pictures, rather than only relying on traditional written or oral forms of communicating facts and concepts, students will have multiple avenues for accessing the information they need and building comprehension as they read to learn.⁸⁷

The techniques of teaching your students about text structures and patterns are not tied to a specific phase of the reading/time continuum, but rather are overarching strategies for preparing your students to comprehend a multitude of texts. In the next section, we will take a closer look at a number of more discrete strategies, organized by the phase of reading in which they are most appropriately used.

II. Activating Comprehension: Pre-Reading Strategies

Some teachers might think simply *telling* students about a text is a sufficient pre-reading strategy, but it is incorrect to assume that only a brief lecture about the reading will push struggling readers to engage with the text in their own minds. In fact, relying solely on such a practice will only enable struggling readers to continue to be dependent on the teacher to make meaning of the text. In addition to fostering self-sufficiency, you must remind struggling readers “that comprehension begins prior to reading and extends into the discussions they have after they’ve finished reading. Many dependent readers think of comprehension only as answering questions correctly after reading the text. That’s too late. Pre-reading

⁸⁷ Marzano, Robert. *Classroom Instruction That Works*. Alexandria, VA: ASCD, 2001, p. 73.

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strategies that focus on active engagement with the text help struggling readers do what good readers do—think all throughout the reading process, not just at the conclusion.”⁸⁸

As the name suggests, pre-reading strategies actively involve students in the themes, concepts, and vocabulary of the text before they even pick up the article, textbook passage, or piece of literature. Effective pre-reading strategies also stimulate students’ prior knowledge about a topic; when the knowledge that we already have in our heads about a topic or a related topic is pushed to the forefront of our minds, it is easier to make connections between what we are learning from the text and what we already know, make predictions about what will happen next, and organize what we read into the mental file folders that already exist in our brains.

We have selected five pre-reading strategies that will draw students into the reading process before they even open the text. With the exception of the Character Quotes strategy (which may be less helpful for math and science), all of these are appropriate for any content area.

Pre-Reading Strategies	Math	Science	Language Arts	Social Studies
KWL or KWL Plus	x	x	x	X
List-Group-Label	x	x	x	X
Anticipation Guide	x	x	x	X
Probable Passage	x	x	x	X
Character Quotes			x	X

1. KWL or KWL Plus Chart. The “KWL” chart is a staple in most reading-focused classrooms, from Kindergarten through high school. This simple, three-column chart is a way to (1) bring students’ prior knowledge about a topic to the forefront of their minds, (2) identify questions that they will look to answer while reading the text, thereby establishing a purpose for reading and building motivation to read, and (3) organize the information learned while reading. The basic directions for constructing a KWL chart with your students are straightforward:

- a. Write the main topic of the unit, selection, or story on the top of the chart.
- b. Ask to students to contribute what they **know** (K) about the topic. Some teachers give each student a copy of a KWL chart, providing time for students to individually brainstorm what they know before compiling the responses of the entire class on a larger class chart.
- c. Once you have established a fairly comprehensive list of what students already know about a topic, ask students to consider what they **want to know** (W) about the topic. Students often struggle with the (W) section, perhaps in part because they are not used to asking questions about what they are about to read, or perhaps because they don’t want to reveal things they don’t know to their peers. As you lead students to complete this chart, it will be important to draw out questions *based on what students have already contributed to the K column*. Therefore, instead of asking the broad question, “Ok, so what do we want to know about Rattlesnakes?” you might ask, “Several of you noted that Rattlesnakes have sharp fangs. What sorts of things do you want to find out about their fangs?” If students are still non-generative, model the asking questions process for them: “I wonder how similar their fangs are to our teeth, and how different they are from our teeth? Is anyone else interested in finding out the answer to that question?” Once you or a few students start to provide questions, usually more and more questions will emerge.
- d. Next, read the selection or begin the unit. As students read, encourage them to record answers to their questions or new information in the **learned** (L) column on their individual KWL charts. When the class is finished with the unit, work together to complete this column on the class chart.

⁸⁸ Beers, Kylene. *When Kids Can’t Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 101.

The “plus” version of the KWL chart requires students to go a step farther and categorize what they have learned into various groups (an excellent way to categorize information learned in preparation for writing). The learned statements can then be transferred to a graphic organizer, which would serve as an outline for the students’ writing.

Consider the following example of a KWL Plus chart from a sixth grade science class in which the topic of study was rattlesnakes:

Topic: Rattlesnakes		
<i>Know</i>	<i>Want to know</i>	<i>Learned</i>
<ul style="list-style-type: none"> • Sharp fangs (D) • Poisonous (A) • Live in deserts (L) • Live in holes (L) • They make a rattling sound before they bite (A) • Diamondback is one type (D) • Eat mice (A) 	<ul style="list-style-type: none"> • How are their fangs different from our teeth? • Are all rattlesnakes poisonous? • Will you die if a rattlesnake bites you? • Where does the rattling sound come from? • What medicine stops the poison? • Do any live in my city? 	<ul style="list-style-type: none"> • Some rattlesnakes have hollow, hinged fangs that can swing forward and inject poison. (A) • All rattlesnakes are poisonous (A) • Often warn before biting by shaking the “rattles” on the end of their tail (A) • Rattle is a set of horn-like pieces joined together, made of keratin (D) • Member of pit viper family (D) • 28 varieties from Canada to South America (L) • Many found in Texas (L) • Some bites can be fatal, especially to small children (P) • The only way to stop the poison is to administer an antivenom (P)
<p>Categories: Where they live—Location (L), What they do—Abilities (A), How they look—Description (D), How they affect people (P)</p>		

The benefits of a KWL chart are far-reaching. Giving students the opportunity to think about what they know up front and to hear what their classmates know brings prior knowledge to the surface and fosters connections between old and new information. The chance to ask questions and wonder aloud about other information establishes a purpose and builds motivation for reading. The record of specific information they have learned not only hammers home the content but also reinforces the purposes of reading generally. Finally, the categorization process helps students organize the information they have read and is fantastic practice for students learning to write more clearly and logically.

The universality of the KWL chart (both across subject matters and age groups) makes it a highly important tool to meld content area and reading/writing instruction.

2. List-Group-Label.⁸⁹ Similar to the KWL chart, the List-Group-Label strategy gives students a forum for accessing prior knowledge before reading a text or beginning a unit of study. Here are the steps:

- a. **List:** Determine a word or phrase that connects to your reading or unit of study that students will have some familiarity with already. For example, prior to reading a passage on the three branches of government, you might ask students to list words they associate with *leading a country*. Before beginning a unit on the standard units of measurement in a seventh grade math classroom, a teacher might ask students to brainstorm 15 words they associate with the word *measurement*. Require students to list at least a minimum number of words (10 or more).

⁸⁹ Allen, Janet. *Tools for Teaching Content Literacy*. Portland, ME: Stenhouse Publishers, 2004.

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- b. **Group:** Put students in pairs or groups and ask them to combine their individual lists. While they do this, they should create categories for similar words on everyone’s lists and group their words into these categories.
- c. **Label:** Students should determine an appropriate label for each group they have created.

An example of the results from a List-Group-Label exercise done prior to beginning a 9th grade biology unit on viruses is below:

List-Group-Label: <i>Getting Sick</i>	
<p><i>People/places who help people who get sick</i></p> <ul style="list-style-type: none"> ● doctors ● nurses ● hospitals 	<p><i>How people get sick:</i></p> <ul style="list-style-type: none"> ● coughing and sneezing near someone ● sharing cups and utensils ● eating food that has spoiled ● they don’t dress warmly enough
<p><i>Stuff that happens because people get sick</i></p> <ul style="list-style-type: none"> ● People feel really bad ● People stay home from school or work ● People get high fevers ● People get strange rashes ● People throw up ● People die sometimes 	<p><i>Types of sicknesses</i></p> <ul style="list-style-type: none"> ● The flu ● A cold ● Chicken pox ● Bronchitis ● AIDS

The teacher, by previewing students’ charts, would obtain a sense of students’ levels of understanding, various misconceptions (i.e. not understanding the relationship between getting cold and getting sick), and prior experiences with the issue that could serve as instructional “hooks.”

3. Anticipation Guide. An Anticipation Guide provides a structured forum for students to think carefully about a text’s key themes or concepts before they actually read the text. Students mark whether they agree or disagree with a series of statements and discuss their stance with their classmates. As a result, while reading, students are more likely to compare what they already think to the themes or concepts expressed in the text. In a sense, an Anticipation Guide helps students see that “instead of simply an assignment, reading...becomes part of an ongoing conversation students have joined.”⁹⁰ Your brief statements should be those that aren’t obviously true or false, but are purposefully debatable, as those will most powerfully engage students in deliberation and ready their minds to engage with the text. For example, true debate could occur with a statement such as, “People living near power plants should be able to recommend limits on the levels of pollution produced by the power plants” as opposed to, “Burning coal in power plants produces pollution and causes acid rain.” The directions for implementing an Anticipation

In order to get my students—especially my struggling readers—more involved in the text, I’ll do a lot of frontloading strategies before we read. For instance, I’ll engage the students in a discussion about some of the main themes of the text by using an Anticipation Guide. For this strategy, I come up with three main statements that relate to the theme of the story (“It is never ok to steal,” or “Parents must always support their child, no matter what the child does”). Students then decide whether they agree or disagree with the statement, and discuss their reasons for doing so. This prompts the students to engage in the theme of the story before they even pick up the text.

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⁹⁰ Daniels, Harvey and Steven Zemelman. *Subjects Matter: Every Teacher’s Guide to Content-Area Reading.* Portsmouth, NH: Heinemann, 2004, p. 108.

Guides are simple:

- a. Identify major themes or concepts in the text that the students will be reading. Focus especially on experiences and perspectives held by your students that will be supported or challenged by the reading.
- b. Create statements that will provoke discussion. A few statements will suffice, no more than ten should be used, and five or fewer is preferable.
- c. Prior to reading, present the guide on the overhead or give students a copy; ask them to reflect on their beliefs about the statements. Engage the class in a discussion about students' responses, being careful to neither affirm nor deny students' positions.
- d. Read the text.
- e. After reading the text, discuss how students' stances were either strengthened or challenged as a result of how the themes or concepts were approached in the text.

Consider the example Anticipation Guide shown below, which might be given to high school English students prior to reading Shakespeare's *Romeo and Juliet*.

***Romeo and Juliet*⁹¹**

Read each of the following statements and write whether you agree or disagree with each one.

Before Reading		Statement	After Reading	
Agree	Disagree	It is acceptable to disobey your parents.	Agree	Disagree
Agree	Disagree	It is always wrong to commit suicide.	Agree	Disagree
Agree	Disagree	It is right to seek revenge if someone treats you wrong.	Agree	Disagree
Agree	Disagree	It is appropriate to marry without the blessing of your parents.	Agree	Disagree
Agree	Disagree	If you accidentally kill someone, you should be punished.	Agree	Disagree

If you wanted to use the Anticipation Guide to bring to light the misconceptions that students may have about the concept at hand (which may be especially helpful in a math, science, or social studies class), your statements *would* take more of the true/false form than of the debatable form. In this case, using the Anticipation Guide serves more as a pre-assessment of student knowledge. Consider the following example prepared for a math class assigned to read a section of their textbook on multiples and divisors:

Multiples and Divisors		
Directions: In the column below labeled "Me," place a check next to any statement that you think is true. After reading the text, compare your opinions on those statements with information contained in the text.		
Me	Text	Unknown statement
		(1) Multiples relate to multiplying and divisors relate to dividing.
		(2) Zero is a multiple of any number.
		(3) Zero is a divisor of any number.
		(4) Multiples of 2 are called even numbers.
		(5) Multiples of 1 are called odd numbers.
		(6) Every number is a multiple of itself.
		(7) Every number is a divisor of itself.

Regardless of the specific form your Anticipation Guide takes, it should serve to get students actively thinking about the text they are about to read, thereby priming the pump for connecting their own thoughts and beliefs to the themes or concepts of the text.

⁹¹ Modified from Allen, Janet. *Tools for Teaching Content Literacy*. Portland, ME: Stenhouse Publishers, 2004.

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4. Probable Passage.⁹² This technique engages students in contextual study of vocabulary before reading a passage, which is much more effective than giving students a list of words and requiring them to use a dictionary to define them one by one. The Probable Passage exercise asks students to work collaboratively to place 8–15 key terms, phrases, or proper nouns from the piece they will read into various categories determined by the teacher. Some of the terms should be familiar to students while others should be new. As illustrated in *Subjects Matter*, the word list from a news article on the spread of the disease SARS might include: *Hong Kong, SARS, respiratory, epidemic, coronavirus, genetic shift, travelers, virulence, Center for Disease Control and Prevention, quarantine, death rate, and co-evolution*. Students would then need to group those words into the following categories: *Problem, Setting, Causes, People, Solutions, and Unknown Words*.⁹³

Word List	
<i>Hong Kong</i>	<i>genetic shift</i>
<i>SARS</i>	<i>travelers</i>
<i>respiratory</i>	<i>virulence</i>
<i>epidemic</i>	<i>quarantine</i>
<i>coronavirus</i>	<i>death rate</i>
<i>Center for Disease Control and Prevention</i>	<i>co-evolution</i>

Categories		
Problem	Setting	Causes
People	Solutions	Unknown Words

Then, students must use a certain number of the terms to create a “gist statement” that summarizes what they predict the reading will be about. In a final step, students note questions they have based on unfamiliar words or questions that arose as part of writing the gist statement in the “To Discover” section. This multi-step process helps students engage in several metacognitive strategies used by good readers: accessing prior knowledge, focusing on key vocabulary, forming visual pictures about what will be discussed in the text, and predicting what the text will be about. The specific steps for leading students through a Probable Passage are below:

- a. Choose 8 – 15 key words from the text students will read.
- b. Determine categories into which students should sort the words. When doing a Probable Passage prior to reading a short story in English class, the categories could be *Setting, Characters, Problem, Outcomes, and Unknown Words*.
- c. Tell students that the *Unknown Words* category is only for terms the group has no idea about – if they have a sense that a word should go in a certain category, they should place it there.
- d. Also, determine before hand if you want students to use all of the words in their gist statement, or only a certain portion. Assure them that if their gist statement doesn’t match the reading, or if they categorize words incorrectly, that is okay. The point is to make categorizations and predictions prior to reading, and then to use the reading process to check their thinking against the text.
- e. Remind students to complete the “To Discover” section at the end, noting specific questions that have arisen as a result of identifying unknown words or considering the gist statement.

⁹² Daniels, Harvey and Steven Zemelman. *Subjects Matter: Every Teacher’s Guide to Content-Area Reading*. Portsmouth, NH: Heinemann, 2004, p. 112.

⁹³ Ibid.

A sample completed Probable Passage is shown below. Consider how a teacher could glean information about students' current mastery of the vocabulary words in the text (given that they may have incorrectly categorized words) and misused vocabulary in the gist statement. Regardless of the accuracy of students' responses, they are activating their background knowledge and setting themselves up to compare their gist statement to the content of the text. Most adolescents will enjoy seeing if their predictions are accurate.

Probable Passage		
Problem <i>SARS epidemic</i> <i>death rate</i>	Setting <i>Hong Kong</i>	Causes <i>respiratory (?)</i>
People <i>Center for Disease Control and Prevention</i> <i>travelers</i>	Solutions <i>Quarantine</i> <i>genetic shift</i>	Unknown Words <i>co-evolution coronavirus</i> <i>virulence</i>

Gist statement: *In Hong Kong, there is an epidemic of SARS, which is causing a high death rate among people who live there and among travelers. The Center for Disease Control and Prevention is trying to quarantine people and give them a genetic shift to stop their respiratory problems.*

To Discover:

- 1. What is a coronavirus? Is that the type of virus that SARS is?*
- 2. What does co-evolution mean? Is that a good or a bad thing? Does it cause a genetic shift?*
- 3. What does virulence mean?*

5. Character Quotes. This pre-reading strategy pulls students into predicting the perspectives, personalities, and behavior of a character or characters they will soon meet in the reading. This strategy, which is usually not applicable to math and science instruction, can be used to introduce characters in fictional literature or to start discussions about historical figures.

- Preview the selection or unit to identify key pieces of information about a character or historical figure.
- Then, pinpoint and select quotations by or about the character that are interesting enough to generate discussion.
- Organize students into groups of three or four. Give each group a different quotation to consider. Each group must generate as many words as it can that might describe the character based on the person's quote.
- Finally, each group should predict what they might learn as they read more about this character or historical figure, recording its predictions and returning to them to evaluate accuracy while reading.

For example, in American History, you might start a lively and informative conversation with General John Stark's quote (and the New Hampshire state motto), "Live Free or Die," or Franklin D. Roosevelt's assertion that, "The test of our progress is not whether we add more to the abundance of those who have much, it is whether we provide enough for those who have little."

We've discussed five pre-reading strategies that will serve to actively engage students in a text before they even begin reading. Numerous pre-reading strategies exist, and you will surely add more to your

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instructional repertoire over time. Regardless of the specific strategies you use, all secondary teachers should make time to help students activate their background knowledge, engage with the vocabulary words of the passage, predict what will be learned in the text, or otherwise get the mental juices flowing before even picking up the text. Without employing these strategies, any reading to learn in your classroom will prove less than successful.

III. Constructing Comprehension: During-Reading Strategies

During the reading process, students should be required to continually practice and apply the comprehension strategies that good readers employ almost subconsciously, such as making connections, monitoring understanding, stopping to summarize, asking questions, etc. While teacher modeling of a “think aloud” is a critical step to helping students “see” what happens in a good reader’s mind when reading, specific during-reading strategies provide a necessary structure for helping students to practice these strategies effectively. When students engage in these during-reading strategies, a teacher also gets a view into the thought processes of his or her students, as their “thinking” becomes visible on paper and in classroom discussion.

Here we have gathered four common methods of during-reading strategies that encourage active reading skills and help students make sense of a text. Of course, this list is by no means exhaustive, but rather is meant to give you some concrete examples of the types of exercises you might develop to build independent readers in your classroom. The five strategies are:

During-Reading Strategies	Math	Science	Language Arts	Social Studies
Coding text	x	x	x	x
Encouraging Student-to-Student Conversations (Say Something, Save the Last Word for Me)	x	x	x	x
Re-Reading (Reading from Different Perspectives)		x	x	x
Story mapping			x	x

1. Coding Text. Coding text involves teaching students a method of margin marking that helps them practice the metacognitive processes that happen naturally for independent readers. You might teach students to place a question mark next to an underlined statement they don’t understand, an exclamation point next to something that surprised them, and a double-headed arrow and brief statement next to something that prompts them to make a connection to something they already are familiar with. If the book belongs to the school, students can use small post-it notes to meet the same objective. You wouldn’t require students to use all of the margin marks in a particular text, but instead you should choose a few active reading skills and corresponding marks for students to employ during the reading, based on particular aspects of the text. The Coding Text strategy can be applied to all content areas and a variety of texts, and it is a highly effective during-reading strategy to help students engage in metacognitive comprehension strategies. A sample of codes are explained in the table below,⁹⁴ but really any can be used as long as they are appropriately symbolic and you teach them to your students.

✓	Confirms what you thought	*	Strikes you as very important
X	Contradicts what you thought	→	Is new or interesting to you
?	Puzzles you	R	Reminds you of something
??	Really confuses you	A	Answers a question you had

⁹⁴ Modified from Daniels, Harvey and Steven Zemelman. *Subjects Matter: Every Teacher’s Guide to Content-Area Reading*. Portsmouth, NH: Heinemann, 2004, p. 115.

2. Encouraging Student-to-Student Conversation. Classroom talk during or after reading traditionally involves teachers posing comprehension questions and students responding (or not responding) in a form of verbal ping-pong, which does little to build comprehension. Instead, students need to be encouraged to talk with their peers about the reading *while* they are reading, and they need to be taught a structure for doing so. Because students need all the practice they can get applying comprehension skills, their conversations shouldn't simply focus on plot development, sequence of events, or key concepts, but instead on predicting what will happen next, asking questions, making connections, etc. The following strategies will help students construct meaning with their peers while reading by using comprehension strategies in a discussion.

Say Something. This strategy builds in frequent but brief student-to-student conversations while reading. Per your directions, students stop after every stanza, paragraph, section, or set number of pages to engage in structured dialogue about what they are reading, to clear up any confusion before moving on, and to break the habit of reading without stopping to think. When implementing this strategy, students can work in pairs or small groups; either one person reads each section aloud, then "says something" to the group that others then respond to, or all students can read silently and a designated person must start the Say Something process. Kylene Beers recommends creating specific "rules" for participating in Say Something (rules which you should model, explain, and allow students to practice). Beers displays the following poster in her room:⁹⁵

Rules for Say Something

1. With your partner, decide who will say something first.
2. When you say something, do one or more of the following:
 - a. Make a prediction
 - b. Ask a question
 - c. Clarify something you misunderstood
 - d. Make a comment
 - e. Make a connection
3. If you can't do one of these five things, then you need to reread.
4. Your partner should comment on what you have shared, by doing one of the following:
 - a. Agreeing/disagreeing with your prediction
 - b. Answering your question or asking a follow-up question
 - c. Making an additional comment or connection

To further structure this process, some teachers provide "stem starters" for Say Something comments. For example, students could refer to a list of Make a Connection stem starters, such as "This character makes me think of..." or, "This reminds me of..." to help them get started in their statements. A list of stem starters can be found in the **Secondary Literacy Toolkit** (p. 14); this Toolkit can be found online at the Resource Exchange on TFANet. ✖

Save the Last Word for Me. This discussion technique "helps students see how the meaning of any piece of reading is recreated by the reader, and not just funneled into her head from off the page."⁹⁶ While reading, students select three to four key statements or passages from the text that are particularly interesting or meaningful to them. They write these statements directly

⁹⁵ Modified from Beers, Kylene. *When Kids Can't Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 107.

⁹⁶ Daniels, Harvey and Steven Zemelman. *Subjects Matter: Every Teacher's Guide to Content-Area Reading*. Portsmouth, NH: Heinemann, 2004, p. 133.

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from the text on one side of their note cards, and then their reactions (a connection to something in their own life, a statement about why they think the passage is important, a summary, etc.) on the other side of the cards. In groups, a student reads one of his direct quotations to his peers, and other students in the group must respond to it first. “The author of the card gets the last word by reading his own reaction from the back of his card—or stating a fresh view, if hearing the others has altered his interpretation...instead of being drawn into a defensive debate, each card-reader gets the face-saving protection adolescents often need, as he listens and decides for himself whether to stick with his interpretation or, free of others’ criticism and judgment, to revise it.”⁹⁷

Of course, student-to-student conversation can be as simple as, “turn to the person next to you and explain what you just learned/read/saw in your own words.”

3. Re-Reading. Consider the following dialogue between Kylene Beers and one of her students:

Me: What’s wrong, Ben?

Ben: I didn’t get the story.

Me: Did you reread the parts you didn’t get?

Ben: Why?

Me: To help you understand them.

Ben: Why would reading the same stuff again help me get it?⁹⁸

Ben illustrates the viewpoint of many struggling readers: “Why would reading the same stuff again help me get it?” However, independent readers often stop to reread sentences and passages that don’t initially make sense. When we reread, we move at a slower pace, reflect on what we have read, and in our effort to make meaning of the text, flip back a page or two to see where else that vocabulary word was mentioned. Struggling readers first need their misconceptions about the value of re-reading broken down—a great opportunity to reinforce the value that “hard work leads to success” as discussed in *Classroom Management & Culture*. Struggling readers also need structured opportunities to reread (as opposed to just giving them the vague instruction to “reread it”) in order to continually build comprehension in the during-reading phase.

To help students see the value of re-reading, you might assign them a short passage and ask them to read it three times. After each reading, ask them to rate their level of understanding of the text on a scale of one to ten. Afterwards, debrief with students, asking them to share their comprehension levels and why they think they increased from the first to the third reading. Most likely, students will share statements such as, “the second time I already had a general idea of what the passage was about, so I could pay more attention to the details” or, “I knew what the hard words were, so by the second or third time I could focus on using the context clues to figure out what the words meant.” You might also relate the re-reading process to the re-listening or re-watching process that students constantly—and eagerly—engage in with music and movies. Adolescents will easily articulate why they listen to songs repeatedly: with each new hearing they discern more of the words, master more of the melody, and are able to focus more on the emotions the lyrics produce. Similarly with movies: adolescents don’t avoid re-watching movies or music videos because they already know the ending. They re-watch them to catch more details each time around and because they enjoy anticipating what is going to happen next.

⁹⁷ Ibid.

⁹⁸ Beers, Kylene. *When Kids Can’t Read: What Teachers Can Do*. Portsmouth, NH: Heinemann, 2003, p. 110.

Showing students why re-reading is important is only half the battle. You also have to give them guidance on *how* they should reread. Consider the following directions:

Teacher: Alright guys, let's look at the beginning of Chapter 5; that's what you're going to read tonight. [The students are reading a novel called *Stick and Whittle* by Sid White.] Before you get into your literature circles to discuss what you read last night, I want us to talk a moment about something I want you to do tonight as you read this chapter. Okay, this chapter is only eight pages so I want you to read it three times tonight. When you get to the end of it the first time, I want you to stop and jot down any questions you have, predictions you have, or responses you have. Then read that same chapter. This time, I want you paying specific attention to information about Stick. What do you know about him at the end of that chapter that you didn't know before? Finally, I want you to read the chapter one more time, this time focusing on finding out about Whittle. After each reading, jot down notes about what you learned about those two characters.⁹⁹

Students might ask why they can't do all three things in one read through, or scoff that it seems like you want them to memorize the passage. Reiterate that you want them to shift their attention to something different with each re-reading, and that doing so will result in a more rich understanding of the text.

Another re-reading strategy, called **Reading from Different Perspectives**, applies to a variety of different subject areas, especially language arts, social studies, and science. When using this technique, students must engage with the text thoroughly, so that they can view the events in the text from more than one perspective. One formulation of the directions for this approach is as follows:

- a. Have students read through the story, article, or selection for the first time.
- b. Identify a number of perspectives that could be connected to important ideas or concepts of the passage. (With narrative text, assign students a particular character or the narrator.)
- c. Divide the class into groups of three or four students and assign each group a different perspective. (For instance, someone teaching this *Secondary Literacy* text could have people read sections from the perspectives of a student, a new corps member, a veteran teacher, a principal, etc.)
- d. Have each group read the passage again, this time looking for statements that reflect the needs and concerns of their assigned character or perspective. Have each group list the concerns that someone with their perspective might have about the topic, as well as the needs a person of that perspective might have.
- e. Then, have them record how they would react to each statement from the text—in character, as if they were actually there.
- f. Finally, students create a one or two-sentence summary statement that conveys their perspective.

For an example of such an organizer, see the **Secondary Literacy Toolkit** (p. 15: "Different Perspectives Graphic Outline"); this Toolkit can be found online at the Resource Exchange on TFANet. ✖

In addition to helping students add additional layers to their comprehension each time they re-read the passage, remember that repeated readings of a text will build fluency, a key skill to concentrate on with our struggling readers.

⁹⁹ Ibid p. 111.

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4. Story Mapping. A Story Map is essentially a graphic organizer that helps students note and track the essential elements in a narrative while reading. In its traditional form, the Story Mapping approach is most applicable to an English class where students are learning about the basic elements of a story's format (Setting, Characters, Mood, Events, Resolution, and Theme). However, content area teachers could modify the "story map" format in a variety of ways. In a math class, an Equation Map might require students to note the steps to solving an equation (with spaces for each step required to determine the solution and a box for the mathematical processes used); in social studies an Event Map could track the sequence of events, major characters, and ultimate resolution of an event in history; biology students could fill out a Process Map that charts the steps involved in transcribing DNA and noting the organelles involved. As you may have gathered, all of these "maps" are simply graphic organizers that help students actively process a sequence of events or actions described in either narrative or expository text, something that struggling readers would tend to gloss over. For an example of a completed story map, see the **Secondary Literacy Toolkit** (p. 16: "Sample Story Map"); this Toolkit can be found online at the Resource Exchange on TFANet. ✖

In summary, while there are multiple during-reading strategies—many more than mentioned here—all serve to give students continued and structured practice in applying the comprehension strategies that good readers employ and are necessary for true comprehension. In the next and final section of this chapter, we'll discuss ways to help students practice applying comprehension strategies even after the reading has been done.

IV. Extending Comprehension: Post-Reading Strategies

As you realize, and as you will need to explicitly teach your students, the process of actively engaging with a text does not end once you have completed the reading. To truly foster the active reading and writing skills that will carry your students to academic achievement in all content areas, you must guide students as they process the information they have read and help them to systematically exercise their ability to clarify, connect, summarize, and evaluate. The stage of the reading process *after* students have read is ripe with opportunities to build students' metacognitive muscles in these areas. Here we will describe three examples of specific post-reading strategies that teachers have found effective in continuing to build and extend students' thinking about and comprehension of a text:

Post-Reading Strategies	Math	Science	Language Arts	Social Studies
Scales		x	x	x
Very Important Points	x	x	x	x
Somebody-Wanted-But-So			x	x

1. Scales are essentially the post-reading form of the Anticipation Guide discussed in the pre-reading section; scales also provide students with opportunities to articulate an opinion based on the themes, events, or concepts of a text. Once again, the best statements are those that aren't clearly true or false, but are somewhat debatable. A few statements will suffice – certainly fewer than 10, and 3-5 are probably sufficient. The purpose is to help students reflect on a text and engage in discussion with their peers afterwards. A sample scale for *The Watsons Go to Birmingham—1963* is on the following page:¹⁰⁰

¹⁰⁰ Ibid p. 140.

The Watsons Go to Birmingham—1963

Determine how much you agree or disagree with each statement and mark that point on the continuum with an X. You will be asked to defend your statements in a group discussion, so think carefully!

1. Kenny and his family should not have gone to Birmingham, Alabama when they did.

<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
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2. You can do some bad things and still be a good person. Consider Byron as you answer this.

<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
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3. Throughout the book, Kenny calls his family The Weird Watsons. This was an accurate description of his family.

<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
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4. After the bomb goes off at the church and kills two little girls, Byron tells Kenny, "How's it fair that even though the cops down there might know who did it nothing will probably ever happen to those men? It ain't. But you just gotta understand that that's the way it is and keep on stepping'." Byron's advice to Kenny to accept what happens and just get on with life is good advice.

<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
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2. Very Important Points (VIPs). This exercise holds students accountable for picking out the key concepts in a passage by having students share their notes on the ideas after the class has read a text. This strategy is similar to the Save the Last Word for Me activity discussed above. Among the many ways to implement this strategy is the following approach:

- As students read, they write questions on sticky-notes about what they have read. In addition, encourage students to mark the three most important points of the text.
- Then, as a post-reading activity, put students into groups of three or four and have them discuss the answers to their questions or why they chose to mark a point as very important. It is critical to have students justify what they have answered or marked as important.

3. Somebody-Wanted-But-So. Struggling readers often find it quite challenging to summarize a text, as they tend to either have very little to say (not being able to sort through all the events and characters) or they relate too many unimportant details in the text (as they can't discern the most important). The Somebody-Wanted-But-So strategy gives students a structured forum for summarizing the key events of a text. Students must decide who goes in the *Somebody* column (thereby determining the major characters in a text), *What* they wanted, *But* what happened that kept them from getting what they wanted (again, forcing them to focus on certain details) and, *So*, the eventual outcome of that particular conflict. When students are finished, they have created a short summary of the text. (Note that if the text is long, they may end up having several SWBS rows filled in, that will be connected with transition words such as *then*, *and*, etc.)

You can introduce the SWBS charting strategy using a simple poem or short story, such as "Sarah Cynthia Sylvia Stout Would Not Take the Garbage Out" by Shel Silverstein.¹⁰¹ You would explain the chart, read the poem, and then model the process to create the following:

¹⁰¹ Ibid p. 149.

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Somebody <i>Sarah Cynthia Sylvia Stout</i>	Wanted <i>Wanted to avoid taking the garbage out</i>	But <i>But the garbage piled up to the ceiling, out the door, and up to the sky</i>	So <i>So her neighbors moved away, and no friends would come to play</i>
THEN			
Somebody <i>Sarah Cynthia Sylvia Stout</i>	Wanted <i>Wanted to take the garbage out</i>	But <i>But by then it was too late</i>	So <i>So Sarah met an "awful fate"</i>

The headings for a SWBS chart are best suited to narrative texts, but you could use different headings, such as *Something Happens...Then This Occurs* to help students summarize the chain of events in a scientific process, or *Something Happened...Then This Occurred* to help students summarize cause and effect relationships that are common in social studies classes.

Conclusion and Key Concepts

This chapter surveyed a wide variety of strategies that can be used at different points on the reading/time continuum to help students practice various comprehension skills with structure and support.

- Two overarching strategies to prepare your students to comprehend a text include teaching text structures, such as chapter titles, section headings, figures, and their purposes, and text patterns, such as Generalization/Principle, Comparison/Contrast, Description, etc. Teaching both through explicit instruction and graphic organizers will give your students a familiarity with the common road signs that good readers use to navigate a text.
- Pre-reading strategies, such as KWL Charts, List-Group-Label, Anticipation Guides, Probable Passage, and Character Quotes, stimulate students' prior knowledge about a topic and involve students in the themes, concepts, or vocabulary of a text before they even open the book. Pre-reading strategies prepare students to ask questions, make connections, form predictions, and categorize new information in the during-reading stage.
- During-reading strategies, such as Coding Text, Encouraging Student-to-Student Conversations, Re-Reading, and Story Mapping, are all examples of ways you can help students practice the comprehension strategies that good readers employ while reading. Such during-reading strategies give students a structure for continual, active engagement with a text and force them to grapple with comprehension while they are reading, as opposed to simply moving their eyes down the page.
- Post-reading strategies, such as Scales, Very Important Points, and Somebody-Wanted-But-So, drive home the fact that the process of actively engaging with a text does not end once students have completed the reading. Struggling readers especially will need to be given opportunities to continue to flex their metacognitive muscles by debating themes in the text and summarizing the key points after they have done the reading.

Writing to Learn, Learning to Write

Chapter Five

I. “Informal” Writing: Specific Strategies for Writing to Learn

II. Writing Products Across Content Areas

III. “Formal” Writing: The Five-Step Process

Introduction

Although we have artificially separated reading and writing instruction to clearly explain them both, we must start this chapter by reiterating that reading and writing are inextricably intertwined skills and processes. In fact, both serve as primary means of building comprehension in a secondary classroom, as reading *provides information* and writing *deepens understanding of that information*. For that reason, regardless of the subject matter you teach, the skills of reading and writing are each most effectively taught in connection with the other. Reading and writing are also conceptually hard to separate, as many of the pre-, during-, and post-reading strategies described in the previous chapter to build students’ comprehension also involve writing: recording what students know and want to know in a KWL chart, synthesizing a “gist” statement, noting the Very Important Points of a passage. Indeed, writing in the content-area classroom—in response to what students have read in a text, heard in a lecture, or seen in a demonstration—provides students with a way to process their understanding and apply higher order thinking skills to your content. Students make the greatest academic gains when teachers deliberately harness the synergy of the reading/writing partnership. As literacy researcher Marilyn Jager Adams notes, “Children’s achievements in reading and writing are quite strongly and positively related... an emphasis on writing activities results in gains in reading achievement.”¹⁰²

Chapter Overview: “Informal” vs. “Formal” Writing

We can roughly divide the writing that happens in your content area classroom into two categories. On the one hand, there is “informal” writing: the shorter, quicker written assignments that you use everyday (if not many times a day) both to spur students’ comprehension about your subject matter and to evaluate that comprehension. For example, you might require students to write in their journal for four minutes on their favorite characteristic of Tom Sawyer in order to connect yesterday’s language arts lesson on defining characterization to today’s lesson on applying it. Or, you might have all the students in your seventh grade earth science class write a dialogue between two water molecules as they travel through the water cycle, so students can demonstrate their comprehension of the process. Informal writing, sometimes labeled “writing to learn,” tends to involve fairly compact and quick methods of expressing ideas and demonstrating knowledge. Teachers evaluate informal writing primarily for its content, rather than its form or style.

On the other hand, there is “formal” writing, which focuses students’ long-term energy on going through the drafting and revision process necessary for creating a well-developed written product. You might, for instance, assign an eighth grade history student to write a biography of Cesar Chavez, in which case you would need to model, teach, and guide the student through researching, note-taking, organizing, drafting, editing, and formatting strategies until a final product is “published” to the class or other audiences. Or, as another example, you might ask your high school chemistry students to complete a structured lab report that lays out the project’s hypothesis, procedures, data, and conclusions.

¹⁰² Adams, Marilyn Jager. *Beginning to Read: Thinking and Learning About Print*. Cambridge, MA: The MIT Press, 1994, p. 375.

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To get my students writing, I have students write their own word problems that use the math vocabulary (and skills) we are currently learning. Students must include a written explanation of how to solve the problem, the answer, and a corresponding picture. This is a great way for me to assess their understanding and involve them in informal writing activities that deepen their understanding.

Molly Minnick, Baltimore '01
Master Educator, DC Public Schools

We know you may be thinking, “Isn’t this the English teacher’s job?” Both forms of writing are invaluable tools for secondary teachers of all content areas. You will want to integrate informal writing into the vast majority of your lessons to both monitor and build students’ active thinking about your subject matter. You will also want to implement carefully chosen, long-range writing projects through which you lead students in learning to write for a particular audience in a particular format, as that is what true scientists, historians, and writers do. The frequency with which students complete formal writing projects will vary depending on your subject matter, with students in a secondary English/Language Arts class doing so more than students in a science, social studies, or math class. In this chapter, we will first address the highly

useful “informal writing” structures that teachers use every day to accelerate student learning. Then, we will point out some of the specific writing products that might come out of different classes and turn to the formal writing process.

I. “Informal” Writing: Specific Strategies for Writing to Learn

First, we will survey a series of popular and effective strategies for “writing to learn,” the writing activities that sustain and extend student engagement with content after the introduction of new material (which could entail reading, listening to a lecture, participating in a group activity, watching a demonstration, or any number of other methods). Implementation of these writing strategies will also allow you to monitor students’ thinking about a topic. Just as we broke down comprehension strategies by phase of the reading/time continuum in which they were most applicable, here we’ll discuss writing activities that are best integrated either during or after learning.

Writing to Learn...During Learning

Writing to learn involves much more than just writing down passages from a text or copying what the teacher is writing on the board or overhead during a lecture. Just as we must encourage active thinking while reading, we must help students actively process what they are learning through their writing. The “writing to learn” strategies below are examples of some of the many ways you can help students truly engage in what they are learning by putting pencil to paper and asking questions, summarizing information, visualizing, and in other ways continuing to build and apply comprehension skills.

In my eighth grade history class, students spend the first five minutes writing thoughtfully in response to a prompt on the front board. We discuss the question as a class, and then move on to the reading. Once students finish their class assignment, they spend the last five minutes of class answering a higher-level question on the content they just learned in their journals.

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1. Daily Journals. Student journals are a fantastic forum for writing that can be implemented with any subject matter. While there are many different forms of journals, in content area classrooms most teachers use content-focused journals. That is, rather than using the journals purely for teaching writing skills or for self-reflection (as a secondary English teacher might), a secondary science, history, math, or foreign language teacher might periodically designate five or ten minutes of writing time at the beginning of a class to have students answer a question about yesterday’s lesson, as a bridge to today’s lesson.

This regular writing activity could be integrated into the “Do Now,” a beginning-of-the-period routine discussed in *Instructional Planning & Delivery*. Or, perhaps the writing prompt is used to engage students during the lesson opening. For example, a physics teacher might have a word problem on the board each day that relates to the day’s lesson, and students must solve the problem in their journal and write an explanation of the methods they chose. A middle school math teacher might post the prompt, “First, calculate the area of the following shapes. Then, describe the differences in size. Use the terms ‘less than,’ ‘greater than,’ and ‘equal to’ in your sentences.” A science teacher might ask students to write out the steps for making a peanut butter and jelly sandwich prior to a lesson on the characteristics of a materials list and procedure section in a lab report.

In order to yield thorough journal entries, you will want to introduce this procedure with clear examples you’ve created. To make your expectations even clearer, provide students with a simple rubric for their entries. If you “phase in” a different aspect of your journal rubric every day, students will have a chance to practice and master each guideline, provided you take the time to show your class what meets, exceeds, and falls below your standards.

To maximize the instructional potential of journals, teachers should provide regular feedback to students on their journal writing, as one additional purpose of such writing is to provide a direct line of communication between the teacher and each student. When a teacher reads through and comments on the writing done in journals, the journal becomes an excellent formative assessment tool. Of course, with 150 students, a secondary teacher might collect only a fifth of the journals each night.

The flexibility of the journal format allows journaling to be used at all grade levels and in all content areas. For examples of daily journal prompts for various content areas, see the **Secondary Literacy Toolkit** (p. 17: “Secondary Daily Journal Prompt Guide”), which can be found online at the Resource Exchange on TFANet. ✖

2. Stop and Jot. The Stop and Jot strategy allows students—as they are reading a text, listening to a lecture, observing a multi-step demonstration, or watching a video—a chance to evaluate their understanding of the topic, to make a connection to something they have learned previously or experienced outside of school, to make a prediction, and to question anything that they might not fully understand. As the name suggests, the teacher simply stops the students mid-activity and directs them to reflect quickly in writing on what they are reading, seeing, or hearing. Specific prompts are especially helpful to focus students’ responses:

- “We just saw what happened when I released the balloon rocket. Write down why the balloon rocket is a good example of Newton’s Third Law of Motion. Remember to use complete sentences.”
- “Write down two questions you have about the “Matching of Spouses” based on this passage in *The Giver*.”
- “What do you think will happen when I add the blue-tinted canola oil to the other liquids in this graduated cylinder? Draw a picture in your notebook and write an explanation of your prediction.”

The teacher can use these entries to assess students’ comprehension of a particular concept and how actively they are engaging with the material. The teacher might circulate through the room and read over students’ shoulders, or take a minute to have a few students share responses. Or, the teacher can review students’ writing later, especially if the Stop and Jot or other informal writing pieces are captured in a journal (rather than random sheets of paper) as noted above.

Writing to Learn, Learning to Write

As with all of these strategies, you will need to take the time to show your students what you expect from a Stop and Jot. If you ask your students to write down a question about what they've just heard, some will not know what you are looking for. Before expecting students to "stop and jot" on their own, model this process a few times, and do it as a class. The clearer you are in your directions early on, and the more consistently you reinforce your standards, the more your students will produce what you would like to see.

My students "Stop and Jot" about their reading every time they read an independent reading book. This provides accountability to the reading as well as reinforces "reading with your brain on," which I teach my students to do. Stop and Jots can be inferences, questions, reflections, or textual connections.

**Autumn Zangrilli, New York City '04
Dean of Teaching and Learning,
KIPP AMP Academy in Brooklyn**

3. Structured Note Taking. A step more time-intensive than Stop and Jot, Structured Note Taking also helps students actively process the material they are learning. Many teachers find that creating an outline or graphic organizer for students' note taking provides a scaffold of support as students write their thoughts and questions. A few different forms of Structured Note Taking are explained below. You'll notice similarities between the forms:

Recall Note Taking. This method of outlining a text requires students to fill out two columns. In the right hand-column, the students jot notes that summarize what they are learning. The teacher can provide these key points if that support is necessary, or the student can evaluate the material on his or her own (obviously, helping students move toward the latter is important in secondary classrooms). In the left-hand column, students must write recall clues or questions that will evoke the information on the right side of the page. For example, during a lecture on the Cuban Missile Crisis, students might note on the right of their form the key points "1) 1962 - Soviet Union behind US in arms race: US had long range missiles, Soviet missiles could reach Europe but not US. 2) After Bay of Pigs, Castro afraid of second US attack on Cuba." and on the left students might pose the question, "Why did Castro and Khrushchev both desire intermediate-range missiles in Cuba?" This process engages students cognitively in the material, as they are essentially creating a "test" for the knowledge that they are learning as they learn it. For an example of this technique from a lecture about the Cuban Missile Crisis, see the **Secondary Literacy Toolkit** (p. 18: "Sample Recall Note-Taking"), which can be found online at the Resource Exchange on TFA.Net. ✖

Clues	Key Points

Cornell Notes. Cornell Notes provide students another systematic process for taking notes. The page is divided into three sections. On the left, students note main ideas and key concepts (again, these could be provided by the teacher or produced by the students). On the right, students note details and/or questions they have that connect to the entries on the left. At the bottom, students write a summary of the passage. Completing a Cornell Notes template provides students practice in summarization and asking questions. A Cornell Notes Template is included in the **Secondary Literacy Toolkit** (p. 19). ✖

Multiple Entry Journals. Similar to Cornell Notes but with more sections, Multiple Entry Journals prompt students to record (1) main concepts and ideas, (2) connections and questions, (3) key vocabulary words and definitions, (4) a summary of the notes, and (5) a picture that will help them remember the key information. Multiple Entry Journals, if used while reading, can integrate the skill of visualization, as students might draw a picture of what they are reading about. During a math lesson on adding fractions with unlike denominators, Multiple Entry

journals provide a handy space (and reminder) for students to draw pictures that show equivalent fractions. For a copy that you can use in your classroom, see the sample Multiple Entry Journal in the **Secondary Literacy Toolkit** (p. 20). ✂

As you can see, structured note taking can take a variety of forms, and there are multiple permutations that have been developed by teachers. Any effective note-taking organizer will prompt students to apply one or more of the key comprehension strategies, serving to remind students that learning is thinking, and writing is one way to express that thinking. As a general rule, note-taking sessions should be short (no longer than 15 minutes for middle school students and no more than 30 for high school students), and you should vary the note taking strategies you expect students to use. The key here is for students to remain mentally active while reading, listening to a lecture, or watching a demonstration, and for students to process that learning by writing.

Once my 11th grade history students settled down to reading, I always felt the urge to interrupt and make sure they were on point. How else was I to gauge whether or not they were reading carefully and extrapolating the necessary information? I decided it wasn't worth interrupting them so I started re-typing the reading passages for my class, complete with questions, and blank lines for them to answer. My questions were "embedded" into the reading. This way, I didn't have to speak over my students to make sure they were on task and reading carefully. I could tell by walking through the classroom, observing the movement of their pencils on the assignment.

**Dan Konecky, Greater New Orleans '98
Director of Instructional Media, Teacher U**

We conclude this section with a warning label. Some of these strategies may look very familiar to you. As a successful college student, you no doubt developed a set of skills that helped you absorb the information you needed to master. But your competence comes with a catch: you may find yourself assuming that all students already know how to do what you do. All of the techniques we've outlined are incredibly valuable—to reinforce key concepts, expand students' thinking while learning, and allow teachers to check student understanding—but they must be taught. If you do so, you will not only be enriching your students' mastery of the academic content, but you will be providing students with skills that will help them be successful throughout their education.

Writing to Learn...After Learning

The majority of post-reading/learning strategies involve some amount of writing, as purposeful writing activities are an excellent way to summarize, synthesize, and extend learning. The writing to learn strategies below could be applied to any secondary classroom.

1. Written Conversation (also called "Dialogue Journals" or "Partner Journals"). The Written Conversation activity involves pairs or groups of students responding in writing to what one another has written, and going back and forth for a set period of time. This strategy improves upon the standard class oral discussion because it involves everyone engaging in the material at once, in an interactive manner. This strategy also allows students to "piggyback" off the ideas of their peers and requires them to think beyond standard responses to elaborate on an idea. To kick off this activity, give students a writing prompt such as, "what surprised you about this experiment?", "what reactions do you have to the reasons the United States entered World War II?", or "how would you summarize the key points of this passage?" Each student should write for a short period of time (one to two minutes usually suffices) and then pass his or her paper to a designated partner or group member. Each student should read his or her classmate's response to the prompt, and then respond in writing with a question, an explanation of why they agree or disagree, or additional thoughts. Each time, students should be encouraged to write for the full one to two minutes. This "conversation" can be passed back and forth two or three times, and then students are allowed to talk out loud with their partner or group about what was written for a few minutes. Then, the teacher can conduct a whole class conversation, with everyone already primed to participate. Remember that you will need to ease students into this process

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by scheduling in time to introduce, model, and practice appropriate and effective responses before expecting students to be able to work independently.

2. Admit/Exit Slips. Another common “writing to learn” activity, admit/exit slips are brief writing assignments that can be collected as “admission” to class or “permission” to leave class, and are primarily used as quick, written checks for understanding. For example, admit slips, which would be assigned as homework the day before, might require a brief summary of last night’s reading, a few sentences explaining how the reading connects to their life, or a written explanation of how to solve a problem from last night’s homework. As students enter, the teacher would collect admit slips (noting students who don’t turn them in with an “incomplete” or other such notation in their grade book) and review a sampling of them before instruction begins, perhaps while students are completing their warm up or another beginning-of-the-period routine. A quick analysis of student responses might reveal certain points that need to be stressed in that day’s lesson, or shorten the in-class discussion of the homework because student answers show appropriate understanding. As with other informal writing, admit or exit slip writing is typically not graded (unless to count as a homework completion grade) or subjected to scrutiny for appropriate grammar, as it is typically used as a formative assessment.

<p>Admit Slip</p> <p>Name: _____ Date: _____</p> <p>Period: _____</p> <p>In your own words, explain what is meant by the phrase “manifest destiny.”</p> <hr/> <hr/> <hr/>
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Exit slips are commonly used as one form of checking for understanding at the end of a lesson. Students are asked to write a brief, focused response to a prompt about the day’s lesson before they leave. Since you should use students’ exit slips as a way to assess the success of the lesson and decide what needs to be reviewed before moving on to the next objective, choose your exit slip prompt purposefully. Some sample exit slip prompts are:

- In one sentence, describe *entropy*. Also, give a real life example of *entropy*.
- Solve for x: $7x + 12 = -2$
- Circle the adverbs in the following sentences...
- Arrange the following key events of Westward Expansion into chronological order. Choose 2 events, and describe how one led to the other.

<p>Exit Slip</p> <p>Name: _____ Date: _____</p> <p>Period: _____</p> <p>Write a note to your parent or guardian explaining how you know when a shape has a line of symmetry. (Use the back to draw an example.)</p> <hr/> <hr/> <hr/>
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3. Magnet Summaries. This strategy encourages students to organize information and vocabulary from what they have been learning. The teacher chooses “magnet” words (words that demonstrate the main idea of the concept, skill, or text). Next, students look back through the passage or their notes and find five to seven words or phrases that connect to the “magnets” (this can be done in pairs, in groups, or by individuals). Students create main idea statements using the magnets and matching words, an exercise that serves to solidify the information they have recently learned. Consider the following example from a history class.¹⁰³ The teacher only wrote the words in bold in the center of each box, and students wrote all other information:

¹⁰³ Buehl, Doug. *Classroom Strategies for Interactive Learning, 2nd edition*. Newark, DE: International Reading Association, 2001.

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When talking about longer-term writing products that should undergo the formal writing process discussed in the next section, there is a more difficult balance that must be determined by teachers of subject areas other than English. Yes, students must master content area learning goals; if a biology teacher must ensure that her students can demonstrate mastery of 80% of the learning goals in eleven multi-week units ranging from cellular structure to ecology, there is simply less time to teach and produce formal writing products such as a five-paragraph essay on ethical considerations in the field of contemporary genetics, or a polished letter to a member of the school board on the language used to discuss evolution in the state-wide textbooks.

But recent findings suggest that it will be far more difficult for your students to be successful in your content area if texts common to your discipline remain inaccessible to them. Research shows us that “students who are taught how to write and edit different forms of expository text improve their comprehension of their content textbooks.”¹⁰⁴ By spending some time teaching your students how to use the type of text structures and patterns common to your subject area and to produce pieces in different genres they may encounter, you are investing in your students’ ability to comprehend those same structures and genres when tackling your content. A social studies teacher who effectively instructs his students on the process of writing a research paper will offer explicit, hands-on instruction on the same text structures (title, headings, images, captions) and text patterns (chronological sequence, episode, etc.) that exist in the textbook they are frequently reading.

In addition to increasing student comprehension, a focus on formal writing in your classroom will help students see and learn the ways in which practitioners work with your subject area in the real world. Scientists must communicate with the public in order to make them aware of important findings or health risks. Those who use math to develop recipes, financial transactions, or architectural plans must convey their calculations to an audience as well. Most state standards recognize this important role by embedding at least one learning goal on communication skills in among the other expectations for that content area. By conceiving of your role as teaching students how to articulate the ideas of your discipline to others, you are more likely to see instruction on formal writing as a central part of your job.

Therefore, content area teachers should focus on teaching students to *write* the types of genres and products, and *use* the type of text structures and patterns, that they frequently *read* in their own classroom. This will both capitalize on the synergistic reading-writing-comprehension relationship and help students write like true practitioners in your discipline. Consider the chart below, which lists the common genres and text patterns of various content areas.

¹⁰⁴ Billmeyer, Rachel and Mary Lee Barton. *Teaching Reading in the Content Areas: If Not Me, Then Who?* 2nd edition. Aurora, CO: Mid-continent Research for Education and Learning, 2002, p. 4.

Content Area	Common Genres	Common Text Patterns
English	Narrative, Persuasive, Expository, Poetic, Dramatic	All text patterns
Math	Expository textbook passages, Step-by-step directions, Word problems	Concept/Definition, Chronological Sequence, Comparison/Contrast
Science	Expository textbook passages, Step-by-step directions, Lab/research reports, Newspaper and Magazine articles	Process/Cause-Effect, Concept/Definition, Chronological Sequence, Comparison/Contrast
Social Studies	Expository textbook passages, Biographies, Autobiographies and memoirs, Primary documents, Editorials, Campaign speeches, Interviews	Chronological Sequence, Episode, Comparison/Contrast
Foreign Language	Short stories, Dramas/plays, Biographies, Autobiographies and memoirs, Newspaper and Magazine articles	Description, Concept/Definition
Art and Music	Critiques, biographies, autobiographies and memoirs, newspaper and magazine articles	Description, Concept/Definition

In addition to the common genres and common text patterns in the table above, the options for writing products are incredibly diverse. Many could apply to a variety of different content areas, making it difficult to present them in any manageable categories. We have attempted here, however, to demonstrate this diversity by listing possible writing assignments as narrative, expository, descriptive, and persuasive.

Narrative Writing

- Autobiographies
- Biographies
- Short Stories
- Dramas/Plays
- Folktales
- Mysteries
- Myths
- Memoirs
- Fables
- Obituaries
- Puppet shows
- Cartoons/Comic Strips

Expository Writing

- Encyclopedia entries
- Announcements
- Brochures
- Definitions
- Directions
- Essays
- Game rules
- Interviews
- Letters
- Magazine articles
- Newscasts
- Reviews
- Critiques
- Children's books
- Pamphlets
- Job applications
- Posters
- Notes
- Contracts
- How-to-speeches
- Reports
- Summaries
- Newspapers

Descriptive Writing

- Wanted posters
- Brochures
- Obituaries
- Observational notes
- Real estate notices
- Character sketches
- Resumes
- Lyrics

Persuasive Writing

- Editorials
- Advertisements
- Sales pitches
- Campaign speeches
- Essays

Almost any of these various writing products can be used in any content area classroom, *especially if your students are reading texts in these genres*. Do keep in mind an important point: **while you want to engage your students in a variety of writing products, do not misinterpret this suggestion as a call for creativity for creativity's sake**. You shouldn't spend significant amounts of time, for example, writing "resumes" of various elements in the periodic table or a play that captures the interaction between the variables of rate, distance, and time and bringing such products through the time-intensive five-step writing process. This detour could cause you to miss the goal that you must hit as a content area teacher:

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improved comprehension of the types of reading common to your content area, and improved confidence and abilities in writing the various writing products common to your content area.

With that caveat, once the appropriate product has been determined by you or your students, it will be critical to focus on the process itself, expressly teaching students the steps that go into writing this particular piece. The next section will explore the five-step writing process of pre-writing, drafting, revising, editing and publishing.

III. “Formal” Writing: The Five-Step Process

Effective writing instruction teaches students to use a logical process to create writing products (such as an essay, an autobiography, a poem, a lab report, or a research paper), and then gives them a chance to practice that process by creating a number of good products. While students may not go through the entire writing process every time they write, each writing-related lesson that you develop and implement should involve express discussion of both process and product. In this section, we will approach the formal writing process generally, in a way that would be applicable to an English Literature paper or the methodology, experimental results, and conclusions from a chemistry experiment. No matter what the product, teachers and students should approach the writing process in five steps:

- (1) Pre-Writing**
- (2) Drafting**
- (3) Revising**
- (4) Proofreading and Editing**
- (5) Publishing and Presentation**

As a secondary teacher of English or any other content area, you will need to instruct students not only in strategies for implementing each of these steps, but also in the sequence of these steps themselves. That is, you want your students to associate writing with this complete process and to be able to expressly describe this five-step process. It should be second nature to your students that there is a meaningful pre-writing stage of any writing project, and that there is a crucial revising stage to any writing project. At the same time, your students should have command of a range of strategies for pre-writing and a range of strategies for revising.

Pre-Writing

Pre-writing is a particularly important step in writing that is often forgotten by teachers and students. First and foremost, you cannot expect students to start on the road to writing a persuasive essay, a lab report, or a musical critique with any success if they don't know the qualities of, or haven't seen, an exemplary piece of writing in that genre. A critical step in the pre-writing stage is explicit instruction in the genre of writing students will be producing. Just as when you are teaching any other skill, when teaching the skill of writing a particular genre, you would explain the characteristics of the genre, look at several exemplary models to identify those characteristics, and model the creation of a piece in the genre. A social studies teacher who wants students to write a short biography of a president would need to teach students the characteristics of a biographical

I have a large bulletin board divided into five sections for the five steps of the writing process. In each section I have posted a student's example of each step we've mastered. When students are going through the five-step writing process independently, they post their names on the board in whichever step their piece of writing is at. This gives each student a tangible way of moving through the process and informs me of each student's progress.

Shannon Dingle, RGV '03

piece, including its chronological structure, highlights of major accomplishments, and anecdotal evidence of the subject's personality. A high school physics teacher would need to teach students how to write the components of a lab report, from how to structure a hypothesis to how to compose an appropriate data analysis and conclusion section; this would probably involve several lessons, spread out over multiple days as you teach those steps of the scientific method. Providing this instruction from the beginning is necessary for students to be able to apply the characteristics of the genre as they consider their own piece.

Middle and high school students should think of pre-writing as both a discovery stage, when one collects and organizes ideas content and ideas, and a rehearsal stage, when writers are mentally and on paper experimenting with and practicing the voice and form that will most effectively communicate their ideas. All too often, even our middle and secondary students think that "writing" an essay, poem, or narrative means sitting down and creating something that won't be altered again.

Your students must internalize the idea that they should generate and organize their thoughts extensively before beginning to draft their pieces. For those of us who have written many papers in high school and college, these two processes are probably almost automatic. We all have our favorite methods: some of us draw webs of connecting ideas on paper, whereas others write ideas on note cards and re-arrange the cards to explore relationships among ideas. Share the pre-writing and organizing method that you use with your students, both to give them a strategy to try, and to convey that this is what good thinkers do. Other universal pre-writing strategies to explicitly teach, model, and help students practice include **brainstorming**, **free writing**, and/or **outlining**.

KWL Chart

A useful tool for the pre-writing stage of an expository piece is a KWL chart. As you know from our previous discussion of this model, "KWL" stands for "know, want to know, learn." Before beginning a research paper, for example, you would ask students what they know about the topic and what they want to know. As they research their topic, they fill in what they learn. Then, students can categorize their "learned" column and translate those groupings into an outline.

Brainstorming. As you know, brainstorming is the initial gathering of all ideas related to a given subject. Most brainstorming sessions have an element of simultaneous organization of those ideas, either in lists or by some graphic design. At every turn and in every subject, you should be modeling this sort of mental organization of ideas. Some tips for teaching brainstorming:

- Set a norm of interaction in your classroom during brainstorming that "there are no bad ideas." Students should recognize that this stage of writing is intended to generate all ideas, as they will sift through them later.
- Vary the method of brainstorming you use. You might model web-like graphic organizations of ideas, or provide students with Venn Diagrams in which to brainstorm comparison/contrast ideas. Even older students enjoy using sticky notes for brainstorming and organizing ideas (and that method lends itself to useful display for the class).
- Stress to students that brainstorming is usually the very first step in the pre-writing stage and should occur before outlining begins.

Free Writing. Free writing is a useful tool for getting the ball rolling on a given subject. A teacher asks students to write whatever they want on a given section of the outline for a specific amount of time or for a specific length. One fun method is to instruct students that they must not stop writing—their pens must stay moving—for two minutes. Students usually enjoy sharing these pieces out loud, and from them, students might be able to extrapolate interesting ideas to build on and take into the next stage of writing.

Writing to Learn, Learning to Write

One advantage of the free write is to give reluctant students permission to let their imagination go, without concern for form, spelling or grammatical conventions.

Outlining. A key step in ensuring that a piece of writing has both substance and flow is the process of outlining the results of a brainstorm and/or a free write. As you emphasize the outlining component of pre-writing with your students, consider the following tips:

- Introduce students to outlining through very familiar content. Students can outline a daily routine, the rules in a favorite sport, or the plot of a favorite childhood story. The key is to allow students some occasions to think about the outlining process without struggling with content at the same time.
- Show students the importance of ordering ideas within a piece effectively. Have students identify their most compelling example or point and have them experiment with placing it first and then last. Which impacts the reader more?
- Simultaneously teach outlining as a pre-writing, generative exercise and as a note-taking skill. Students will become much better outliners when they are thinking of all texts that they encounter in outline form.

My kids do a lot of prewriting and drafting in my class, especially at the beginning of the year. They don't take every piece to publication; instead, they choose which pieces they commit to publishing. Jaime told me, "Miss, I like that we get to choose which stories we take all the way to publishing. Sometimes I just want to free write and leave it at that."

Shannon Dingle, RGV '03

Many students and teachers underestimate the time that effective pre-writing takes. As a general rule, the less familiar a student is with the content or form of the writing project, the more pre-writing time is necessary to discover what the students know and do not know about the subject. It is certainly not unusual to spend the same or more time on pre-writing that you spend with students on drafting a written text.

Drafting

This second stage of writing refers to the time when the student is actually crafting language and translating an outline or organized brainstorm into a more coherent piece. Here, students begin to apply the characteristics of the genre to their writing. You must show students that drafting a piece is *not* writing. Rather, drafting is one step in the writing process. The first draft is usually done swiftly to get ideas on paper. In fact, research indicates that writers who try to make the first draft "perfect" run the risk of missing opportunities to discover ideas that could be surfacing during the drafting process.¹⁰⁵ To help students' keep their momentum going, some teachers will set norms for skipping a sentence or paragraph when students are having a difficult time with language. Some teachers, looking ahead to the revision and editing stages, insist that students skip lines when writing rough drafts by hand.

Revising

"Revising" refers to substantive changes that are made after the rough draft. As opposed to the "editing and proofreading" stage that focuses on spelling, grammar, or punctuation, revision considers the effectiveness of the communication, both in terms of content and language. Students will also address matters of style during the revising stage. To help students grasp the purposes of this stage, ask students the following questions:

¹⁰⁵ Botel, M. and Susan Lytle. *Pennsylvania Comprehensive Reading/Communication Arts Plan II*. Harrisburg, PA: Pennsylvania Department of Education - Communications Division, 1998.

- What ideas should you add to this piece of writing to improve it?
- What should you subtract from this piece of writing to improve it?
- What needs to be rearranged within this piece of writing?

As with all steps of the writing process, the teacher should model this stage by working with students to revise an example. She might read her piece to students and ask them the above questions, and perhaps literally “cut and paste” sections of her document—using scissors, tape, and an inserted piece of paper—to open up more space for writing if students suggest elaboration. (If students are writing their work on computers, teaching students the cut and paste function will be necessary.)

Possible foci during the revision stage of writing are the ideas and content of the writing, including the connections among ideas, careful attention to appropriateness for the intended audience, and smooth transitions. Or, students might be asked to read their document for a particular type of revision, such as beefing up the descriptive adjectives in a short story or ensuring that they have provided sufficient supporting evidence for their argument in an editorial. Of course, if a text includes a repeated, glaring mechanical error (such as a consistently misspelled word), a teacher should not hesitate to point out the error during the revision stage and to remind the student to address the problem during the editing phase.

When we go through the five-step writing process, I take one student’s anonymous example and we revise this together either on the overhead or using my laptop and an LCD projector. I take suggestions from the class on how to change it and all students copy what I write as we go along.

Martin Winchester, RGV ‘95
Chief Schools Officer,
IDEA Public Schools

One common approach in the revising stage involves peer review of students’ writing. Peer review, if deliberately executed, can be an excellent learning experience for both the writer and the reviewer. Ideally, the teacher creates individualized peer review sheets to help students examine a specific piece of writing. Consider the following questions that might help guide a peer review (and notice that none are “yes/no” questions):

- How can I strengthen the beginning of my paper to involve my reader better?
- What details could I add that would help explain what I am trying to say?
- How could my characters be more realistic?
- Which paragraph stands out from the rest?
- How could I better organize my information?
- What research do I still need to do?
- What do you think I am trying to say?
- What would be a more appropriate ending?

Of course, you would need to model and practice peer revision before allowing students to do so independently.

Proofreading and Editing

During the “proofreading and editing” phase, the student-author does the nitty-gritty check on the mechanics of the writing, watching carefully for details such as spelling, grammar, usage, punctuation and capitalization. You must *teach* students both the importance and “know-how” of these editing skills, even in your content area. The reality is that all teachers, including math, science, and social studies teachers, have a responsibility to improve students’ formal writing skills. Students should leave your room not only commanding age-appropriate proofreading and editing skills, but believing that the proofreading stage is an integral part of writing that cannot be skipped—just as a microbiologist would never submit a proposal to *Science* without going through the peer-review and proof reading process.

Writing to Learn, Learning to Write

Teachers in all content areas and at all grade levels find themselves teaching mini-lessons on capitalization, punctuation, and other writing mechanics, even in the age of spell- and grammar-check, as not all students will have access to computers to write their pieces. If possible, determine what grammatical skills students are mastering in English class, and provide a rubric that outlines the language mechanics expectations for their writing in your class. Some teachers even teach professional proofreading marks, a technique that often motivates students to be more careful proofreaders. (For a table of editing marks that you can use with your students, see “Copyediting and Proofreading Marks” on page 21 in the **Secondary Literacy Toolkit**, which can be found online at the Resource Exchange on TFANet. ✕) Teachers should expect students to invest the time to fix all errors to the best of their ability and demand that they provide a clean, correct copy for their readers.

I have my students on a writing schedule where they produce a final draft of a 5-paragraph essay every 3 weeks. Each Monday, we do a free-write that is prompted by the national news, a recent holiday, or something going on around school. I have several questions or prompts related to the chosen topic, and I simply ask my students to write and keep their pens moving about anything and everything that comes to mind. On the 3rd Tuesday of every cycle, students choose one of their 3 free-writes to turn into a “focused writing.” These essays focus on the specific skills we have been learning in class for those three weeks, and are graded accordingly by using a rubric.

Maron Sorenson, Atlanta '04
Teacher/Induction Tutor, London Academy

Publishing and Presentation

This stage brings closure to the writing process by allowing students to share their best work with others, whether that sharing takes the form of a book that is sold at local bookstores or an oral presentation about a project to the class. After reading from *Chicken Soup for the Teenage Soul*, students in Martin Winchester’s (Rio Grande Valley '95) seventh grade English class compiled their own personal narratives into a classroom publication entitled *Menudo for the Seventh Grade Soul*. Each student received a copy. Many teachers report that a publication deadline and opportunity for presentation has a significant impact on a students’ motivation to write and also focuses students’ energy on revising and editing.

There are obviously many ways to “publish” students’ writing. To spark your own thoughts, consider the following methods:

- read writing aloud to peers
- submit to a contest
- create a class anthology
- record it on a cassette tape
- post it in the hallway
- perform it as a skit
- submit it to a magazine
- read it at an assembly or over the loudspeaker
- share in a reading party
- mail to far away family members
- produce a videotape of it being read aloud
- send it to a pen pal
- display on bulletin board
- read it aloud to younger students
- submit it to the local newspaper
- submit it to the school yearbook or literary magazine

In Summary. . .

So, when you assign formal writing projects in your language arts, math, social studies, science, foreign language, or arts class, set a solid foundation for your students by teaching them that writing is a five-step process. Plan the lessons and your students’ work using these five steps as a framework. By way of summary and review, consider the following table setting forth the components of each stage:

Stage	Student Activities
Pre-writing	<ul style="list-style-type: none"> • Teach students the specific characteristics of the chosen genre through explicit instruction, modeling, and guided practice • Choose a topic • Brainstorm, gather and organize ideas, words, pictures, or images associated with the topic • Use a KWL chart for expository writing or a Quick Write for other types of writing to discover what is known on a particular topic and to discover what direction the writing might take • Use graphic organizers to cluster ideas and details • Use Quick Writes to generate more thoughts on particular ideas in the writing
Drafting	<ul style="list-style-type: none"> • Identify the audience to whom students are writing and remind students of the characteristics of the genre • Write a rough draft • Emphasize content rather than mechanics
Revising	<ul style="list-style-type: none"> • Share writing in writing groups • Participate constructively in discussions about classmates' writing • Make changes in their compositions to reflect the reactions and comments of both teacher and classmates
Editing	<ul style="list-style-type: none"> • Proofread their own compositions • Help proofread classmates' compositions • Increasingly identify and correct their own mechanical errors
Publishing	<ul style="list-style-type: none"> • Publish their writing in an appropriate form • Share their finished writing with an appropriate audience

Conclusion

You have many options as you consider how to integrate informal and formal writing into your subject area courses. Keep in mind the following lessons as you do so:

- Reading and writing are inextricably intertwined skills. We have generally separated the discussion of reading and writing in this text, but the two should happen hand-in-hand in content area classrooms to optimize student comprehension.
- Secondary teachers of all content areas should regularly incorporate informal “writing to learn” activities into their lessons. “Writing to learn” techniques prompt students to deeply engage with the information they have learned and encourage students to apply various comprehension strategies. These writing activities could happen during or after reading, listening to a lecture, participating in a group activity, watching a demonstration, or engaging in any number of other instructional methods. Implementation of these writing strategies will also allow you to monitor students’ thinking about a topic.
- While there are a variety of more formal writing products that your students could produce, focus primarily on teaching your students to write products that align with the genres you most commonly read in your subject area. This alignment will result in increased comprehension of your content area texts. Avoid formal writing products that are purely creative (unless, of course, you are teaching a creative writing class).
- When embarking on a few carefully chosen formal writing projects in a school year, teach your students the five-step writing process and support them as they move their piece through the various stages.

Secondary Literacy Instruction: Bringing It All Together

Conclusion

- I. A Window Into Some Secondary Classrooms
- II. General Principles for Secondary Literacy Instruction

All that is covered in this text, from building older students' fluency and vocabulary knowledge to helping students become independent readers of your content area texts, culminates in a real classroom with real students. In order to infuse your own secondary classroom with appropriate literacy instruction, you will need to synthesize what you have read in this text, what you will learn in your institute sessions this summer, and what you will continue to learn as part of your ongoing professional development in your region. Unlike the balanced literacy block found in elementary classrooms, there is no recommended schedule or "recipe" for how to effectively build the reading and writing skills of your secondary students in a fifty minute period while also, of course, teaching the learning goals of your subject matter. As you have gathered from previous chapters and will discover as you delve into the professional literature on the topic, there are numerous ways to integrate reading and writing skills into a content area classroom. The strategies you will choose will depend on a variety of factors, including the subject matter, the day's objective, and your students' reading and writing abilities and weaknesses.

However, in order to give you a clearer picture of what effective literacy instruction might look like at the secondary level, we will peer into secondary English, math, social studies, and science classrooms. These vignettes should provide a vision of the end-goal of this text: **secondary classrooms where content area instruction is intertwined with explicit instruction in reading and writing skills, and where students' literacy skills are consequently improving along with their mastery of the content area.** We will close with some general principles to keep in mind as you consider how to best meet the literacy needs of your students.

I. A Window Into Some Secondary Classrooms

Let's look at a few detailed snapshots of what reading and writing instruction looks like at the secondary level in both English/language arts and other content area classrooms. The various strategies used by our example teachers are all ones that were introduced in earlier chapters.

11th Grade Chemistry

At the beginning of the year Leslie gave her students a "reading inventory," which asked a series of questions about students' reading habits, such as whether or not they agreed with the statement, "reading is thinking," or whether or not they ever "heard" a voice in their head saying, "wait, I'm confused...let me go back and read that" as they read. As a result of this survey and conversations with her students' English teacher, Leslie knows that the vast majority of her students do not apply adequate reading comprehension strategies as they read. Instead of actively engaging with the text by asking questions, making connections to things they are familiar with in real life, and visualizing what is happening in the text, Leslie's students think that reading is simply moving their eyes across the page and being able to pronounce each word.

Leslie realized she might need to shift her students' understanding of what it means to read.

Bringing It All Together

To build her student's active reading skills, when Leslie introduces a major new concept in chemistry such as the scientific method, atomic theory, and chemical reactions, she also introduces a new reading comprehension strategy. Each time, she follows a similar instructional pattern: she explains the comprehension strategy, she models how she applies the strategy using a "think aloud," and she prompts students to practice with the strategy on several reading passages throughout the unit (and encourages them to continue to apply the comprehension strategies they have already learned).

Leslie explicitly teaches her students comprehension strategies, and gives them opportunities to practice using them.

Today, Leslie's primary objective is for students to be able to describe the difference between a physical and chemical change. Her secondary, literacy-based objective is that students will be able to apply the "making connections" comprehension strategy to their reading. In addition to reading the introductory passage to the chapter on physical and chemical changes, Leslie has found two other applicable articles. One brief column, from the Home Section of the *Washington Post*, describes precautions homeowners should take to prevent their pipes from freezing (as water going from the liquid to solid form is a physical change). A selected passage from a *Time Magazine* article describes the process of refinishing the Statue of

Leslie uses a variety of texts, not just the textbook, to teach the concepts of her content area.

Liberty after years of corrosion at her copper and iron joints (an example of chemical change). Both articles are fairly high-interest yet low-level, meaning they have simple vocabulary and sentence structure. Leslie follows her pattern of explaining the idea that good readers make connections when they read and modeling the connections she makes to the text, to her life, and to other scientific principles while reading the *Washington Post* article out loud. As a class, they read the *Time Magazine* excerpt, and Leslie notes the connections students make in that text on her overhead version of the passage. Then, students read the

Leslie models her use of comprehension strategies through a "think aloud."

opening sections in the chapter on physical and chemical change. They read it through once, jotting the connections they make to what they just read and the physical and chemical changes they see in everyday life on small sticky notes, and affixing them to the appropriate spots on the page. Then, with a deeper understanding of the text and a familiarity with the vocabulary words, students read it through again, completing a Venn diagram that compares and contrasts chemical and physical changes. At the end of the lesson, students write a short statement that summarizes the difference between a physical and chemical change on an "exit ticket."

Students write informally to process what they have learned.

7th Grade English

Felicia's 7th grade students, who are primarily English Language Learners, will soon begin reading the novel *The Giver*, by Lois Lowry. To prepare them to identify the book's major themes of utopia and conformity (one of the state standards is that students will be able to identify the themes in various literature), Felicia plans two vocabulary development lessons on the concept of utopia and conformity for Monday and Tuesday. On Wednesday and Thursday, students will read short stories with those themes in them (such as "The Fireman" by Ray Bradbury) and apply, as they always do, the "seven habits of highly effective readers" while they read (the

Felicia knows vocabulary knowledge is key to comprehension.

seven habits include making connections, predicting, asking and answering questions, summarizing, visualizing, making inferences, and monitoring one's comprehension).

The objective for Tuesday's lesson is for students to be able to describe the concept of conformity, identify examples of conformity in everyday life, and create their own questions about the role of conformity in society. Felicia opens the lesson by reading a few short, real-life scenarios about conformity that students can relate to: wearing uniforms to school, deciding whether to sneak out of the house to meet up with a group of friends, being a new student in Felicia's classroom and observing others to see how they behave. Felicia then guides students through the creation of a concept map for the word "conformity." This graphic organizer has several sections; students must list the word, the definition, an example sentence, synonyms, examples, non-examples, and essential characteristics. Felicia believes a thorough understanding of conformity is critical to students' comprehension of *The Giver* and accurate identification of the book's theme, and knows that her instruction must do more than quickly provide the definition.

Students have opportunities to practice using comprehension strategies.

Our word today is conformity. Everyone repeat the word so you get the correct pronunciation. That's right, it has the syllables /con/ /for/ /mi/ /ty/. Good. Look at our "common syllables" chart – some of the syllables in conformity are on that chart. Let's write the word at the top of our graphic organizer. Conformity is the noun form. Let me use the noun form in a few sentences. I see conformity in your uniforms. You acted in conformity with your beliefs when you told the person not to use that word. The verb form is to conform. Listen to a few sentences in which conform is used as a verb, something that people do. In the scenario, Karen conforms to the behavior we exhibit in our classroom. A lot of you thought Steven shouldn't have conformed to his peers by sneaking out of the house. Given my example sentences, what would be a good definition for the word?

Felicia teaches common syllables to help students break down multisyllabic words.

Students are interacting with the vocabulary on a deep, meaningful level.

Felicia lets students grapple with the definition but ultimately provides students with a definition in clear, student-friendly language. Felicia continues to fill in a concept map on the overhead while students complete their own copy. They slowly move through each section, engaging in rich discussion about the concept and providing students with a deep grasp of its meaning: they begin to see that conformity occurs in necessary ways, in harmful ways, in ways both small ways and on a societal level.

Interesting, Abel. Why do you think one essential characteristic of conformity involves other people? So you're saying if it's just you doing something, you're not conforming to anyone else. Who agrees and can provide an example of how conformity involves a group of people that are all doing the same thing? And how does that connect to utopia, which we discussed yesterday? Right...Now, what are some examples of conformity in our every day life? Ok, jobs. Tell me more, Nicole. Is just having a job conforming? Ahhh, you conform in a job by behaving in a certain way at the office, wearing certain clothes, meeting deadlines. That's right.

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Once students have completed the concept map, Felicia leads a class discussion to further students' understanding of conformity and activate their opinions on the matter with prompts such as, "Do people conform because they want to, or do they conform out of fear because they are afraid of being different?" and "Do you need conformity for utopia to work?" By the end of the class period, Felicia's students have met the objective and she is convinced they are ready to read and identify the themes of conformity in "The Fireman" tomorrow, and in *The Giver* when they begin the novel.

9th Grade U.S. History

Carl's students are significantly below grade level in reading, and they particularly struggle with fluency, phrasing, and comprehension. To help his students better comprehend the U.S. history textbook and supplementary readings, Carl has taught his students to use graphic organizers to chart the "text patterns" that are common to writing in the social sciences and regularly found in the course's text. Those text patterns include describing an episode, comparing and contrasting, cause and effect, and sequences of events. Carl began the school year with several lessons that gradually taught his students to identify various text patterns by noting "signal words" (for example, the words *although*, *similarly*, *yet*, and *compared with* are often sprinkled throughout a passage that is comparing and contrasting two historical figures or events) and then organizing the ideas and information in the passage into a graphic organizer (for example, a Venn Diagram could be used for comparison-contrast passages). Carl has found that consistent bundling of reading a passage, noting signal words, determining text patterns, and recording the information in an appropriate graphic organizer greatly increased his students' comprehension of the material.

By teaching text structures and signal words, Carl is equipping his students to navigate the texts of his content area.

To build his students' fluency, Carl models fluent, expressive reading through a read aloud.

Today, Carl's objective is for students to be able to describe the key elements of Pickett's charge, a brutal battle that many regard as a turning point in the Civil War. While students follow along in their textbook by sweeping their pencil under the phrases as Carl reads them (a practice that highlights for students the speed and phrasing that good readers use), Carl dramatically reads the three pages in the textbook that describe the battle. Afterwards, he asks students to determine signal words that would point to a particular text pattern. Students quickly assert that the passage describes an episode, and point out the sequence of events, cause and effect, and key descriptive elements. Looking at the various models of graphic organizers Carl has enlarged on the wall, most students vote to use the "Episode" graphic organizer to record the key elements of the battle. Students then read the passage again, this time alternating reading out loud with a partner. They work together to fill in their "Episode" graphic organizer when they come across certain key facts, noting the time, place, and duration of the battle, the key people involved, and the causes and effects of the battle. Students share their responses as Carl fills in a class organizer for students to compare to their own. Then, students are asked to write a "mini summary" of the battle that integrates all of the key elements they have identified.

This informal writing activity allows students to practice the skill of summarization.

8th Grade Geometry

Jonathan strives to integrate writing into his math classroom on an almost daily basis. Each day, his students respond in writing to a prompt in their math journal as part of the warm-up. Each prompt relates to what students learned the day before. For example, “Determine the shapes that would come next in the following sequences. Write a one-sentence explanation of the geometric pattern and your answer,” or “Write a word problem that would require the person solving it to use the equation for the area of a circle. Then, solve the problem yourself, and explain your process for doing so.” Jonathan has found that writing about math helps students organize, clarify, and reflect on their understanding of mathematical processes. When he reviews their math journals on a weekly basis, he gets a better sense of what his students understand and still find challenging.

Jonathan uses informal writing to extend and assess comprehension.

Today, as part of their unit on polygons, the objective is for students to be able to determine if two polygons are “similar.” The journal prompt today asks, “1. What does the word *similar* mean? 2. Please list three synonyms and three antonyms for the word *similar*. 3. Draw pictures of two things that you would describe as similar – either things that you would encounter in math class or in every day life.” After the timer goes off for the warm-up, students read their responses:

Similar means that things are the same...Similar things are like each other, but don't have to be identical...Some synonyms are alike, the same, matching, related...Some antonyms are dissimilar, different, opposite, unequal. The two similar things I drew were a polka dotted shirt and a striped shirt, which are similar because they are both shirts, but not identical because they have different patterns...I drew my fluffy cat and my short-haired cat...I drew a plus sign and a multiplication sign, because multiplication is a quick way to do addition, so they are related...I drew a square and a rectangle...I drew two squares that are slightly different sizes.

As Jonathan hoped, the examples provides a perfect segue into the lesson. He begins by explaining that the word *similar* has a specialized meaning in math that is different from the meaning of *similar* in “ordinary” English. He draws a large t-chart on the board and writes “Similar in ordinary English” at the top of the left column. Under that, he jots down most of what students reported drawing in their journals. On the other side of the t-chart, he writes “Similar in Math.” In that column, he draws similar squares, triangles, and other polygons. He steps back and asks students to make observations about the similar polygon pairs in the “Similar in Math” column.

One looks just like a bigger or smaller version of the other...It looks like all the angles are the same in those two triangles you drew...

Jonathan is building up to a student-friendly definition of the term *similar*.

Adding the word to the word wall, and referencing it in the future, will allow students multiple exposures to the word.

Using student observations, Jonathan and his students create the criteria for whether or not two shapes are similar in math. On the overhead, he guides students through determining if various shapes meet those criteria and are therefore truly similar polygons. Finally, he gives students rulers and protractors to determine if various shapes on a handout are similar as part of their independent practice. In the last five

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minutes of the period, students return to their math journals and write their own “math-version” of the word similar, with a corresponding, annotated picture of two similar polygons. Later that afternoon, Jonathan adds *similar* to his math word wall, with an illustration of two similar triangles beside the term.

II. General Principles for Secondary Literacy Instruction

Clearly, there are numerous ways to integrate reading and writing skills into a content area classroom that depend on the subject matter, the day’s objective, and your students’ reading and writing abilities and weaknesses. But what are some general principles to keep in mind as you determine how to most effectively interweave specific reading and writing instruction with specific content area instruction?

1. Recognize the importance of explicit literacy instruction at the secondary level.

The first principle involves more of a mind shift, as opposed to a specific action. Given how far behind our students are, we cannot afford to avoid explicit instruction in vocabulary knowledge, reading comprehension strategies, or the writing process. Students will not learn those skills by osmosis; they must be explained, modeled, and practiced. More importantly, if students don’t build their word recognition, fluency, vocabulary, and comprehension skills, their ability to understand the texts of your content area will be severely hampered.

Not only did I think I would not have to teach literacy skills to my seventh and eighth grade science students, but I avoided teaching those skills in my first semester. I avoided the science textbook and used demonstrations, labs, and short lectures to help students master the science content. However, when it came time for students to display their knowledge on a mock-standardized test, they fell dramatically short of where their performance in my class had been. Why? I hadn’t taught my students how to read scientific information and process it independently. It became obvious that literacy was the key lever in allowing my students to showcase their knowledge and potential.

**Aaron Pomis, North Carolina ‘02
Founding Science Teacher, KIPP Charlotte**

2. Show your students how good readers read.

You’ll recall that almost all struggling readers at the secondary level have a fundamental misconception of what it means to read. Most of these students, when asked, would report that reading is simply being able to pronounce all the words on the page, or the ability to get through a whole bunch of words to reach the end of a book. You must explicitly teach your students that their view is a far cry from reality. This important aspect of reading can be approached, as shared in chapter three, through “thinking aloud” about the metacognitive strategies you employ while reading. Students must hear what goes on in a good reader’s mind. From the beginning of the year, you should tell students your goal of helping them become better readers of your course’s texts, explain the various metacognitive strategies that good readers use, model those strategies through “think alouds” while reading sections of your content area texts, and give students opportunities to practice those strategies as they read the texts of your content area.

3. Give students structured opportunities to apply comprehension strategies.

In chapter four we shared specific methods for helping students apply comprehension strategies before, during, and after reading. Some of those methods include constructing a Probable Passage to help students predict what a text will be about before they even begin reading, teaching students to “code” a text with symbols that chart their metacognition as they read, or summarizing and reflecting on the key points of a passage through identifying the “very important points.” While you probably wouldn’t use a pre-, during- *and* post-reading strategy every time you read a text, you should employ at least one strategy each time your students engage with a text, at least until students start to use these

processes automatically and you see a dramatic increase in their reading comprehension. Also, remember that good readers use text structures, such as section headings, bolded vocabulary words, and captions, to support their comprehension. At the beginning of the year, teach these “sign posts” to your students so they too can leverage them for deeper understanding. Helping students to be on the look out for signal words and their corresponding text patterns (chronological sequence, episode, cause/effect) will allow students to navigate a text and apply those same patterns to their writing.

- 4. Build students’ knowledge of content area vocabulary.** You can almost assume that your students will need significant instruction in the “tier three” vocabulary of your content area. All secondary teachers should look for opportunities to explicitly teach key content area terms and the academic language of their course. Remember the three principles of effective vocabulary instruction: 1. Carefully choose a limited number of words and provide a direct, student-friendly explanation of their meanings, 2. Create meaningful interactions with the words in a variety of formats and contexts, and 3. Ensure the students have multiple exposures to the new words. Explicit vocabulary instruction should occur on a daily basis. You might need to provide more time-intensive instruction, such as deep exploration of a word’s meaning as exemplified in Felicia’s vignette above, or you could merely work in exposure to words you have already introduced through integration in your own speech or reference to the word on the word wall. Regardless of how you do so, seize every opportunity to build your students’ vocabulary.
- 5. Address weak word recognition or fluency when necessary.** Chapter two of this text shared strategies for building students’ word recognition and increasing the fluency with which students read texts. Remember that most of our students who struggle with word recognition need help breaking down multisyllabic words and recognizing the words of the content area with automaticity. Although you could do a more formal diagnostic to determine if your students have weak word recognition and/or fluency skills, you can quickly ascertain if this is a problem area for your students simply by listening to them to read aloud. If a student frequently stumbles over words as she reads, or reads haltingly and without expression, you may need to work with that student individually. That might involve teaching them word parts so they can “chunk” large words, giving them their own personal word wall to build automatic recognition of words, or providing them with texts on their instructional level. If many of your students struggle in this same way, this instruction can intermingle with your content area instruction, as Carl did above with repeated readings of his texts and Felicia accomplished through reference to a common syllable chart.
- 6. Establish a classroom environment with a wide range of texts.** We have alluded to this final principle at various points when talking about providing students with texts on their instructional and independent level. Students should be reading material in genres besides “the textbook” in order to build their knowledge of the content area, and those materials should be at varying levels of difficulty. You will need to remain an avid reader of the texts in your content area so you can identify newspaper articles, editorials, magazines, primary sources, biographies, historical fiction, non-fiction books, novels, plays, and poetry that will meet your students’ needs. For your reference, several middle school and high school book lists, with texts in a variety of genres and at a variety of levels, are included in the **Secondary Literacy Toolkit** (pp. 22-43); this Toolkit can be found online at the Resource Exchange on TFANet. ✂ Also, if we are “constantly scouring newspapers, magazines and

My textbook is on average at about a tenth grade reading level, while my students are on average at a fourth grade reading level. I use the textbook as the backbone of information and I use supplemental texts constantly.

Erin Palkot, RGV ‘03
Social Studies Content Specialist,
YES Preparatory Public Schools

Bringing It All Together

websites for relevant pieces for our kids, realizing that every school subject gets ‘covered’ in the popular press...we can feed class discussions with articles about air pollution in the community, the role of serotonin in brain function, the latest genetic engineering breakthrough, racial quotas in police department hiring, or a controversial art exhibit.”¹⁰⁶ As Leslie demonstrated above, the shorter articles found in the popular press are often of perfect length to model comprehension strategies and provide students opportunities to practice. In addition, they are often higher-interest and lower-level than your textbook, allowing you to draw more reluctant readers in and provide students with reading material they can engage with.

As articulated in the introduction to this text, one of our greatest opportunities to alter our students’ life prospects comes through teaching our students to read, write, and communicate effectively. Although literacy instruction may seem like an additional burden, the learning goals of your content area are a fantastic vehicle for helping your students become better thinkers, readers, writers, and communicators. We leave you with a statement from Alan Giuliani (Mississippi Delta ’94), an alumnus who teaches high school math in Mississippi and concurs with this point:

My mission for my classroom is actually based on literacy: “We will communicate at high levels about challenging mathematics.” That is because, to me, math is largely about communication, not just about getting the right answer. As I tell students, when they find the cure for cancer or finalize research that could win them the Nobel Prize, it will not be enough to just know the answer. They must communicate it effectively to others. Thus, this class is great practice for communicating difficult concepts. “Oh, yes—this is an English class,” I remind them.

¹⁰⁶ Daniels, Harvey and Steven Zemelman. *Subjects Matter: Every Teacher’s Guide to Content-Area Reading*. Portsmouth, NH: Heinemann, 2004, p. 60.