GRADES 1–6

LEARNING WORDS INSIDE & OUT

Vocabulary Instruction That Boosts Achievement in All Subject Areas

NANCY FREY & DOUGLAS FISHER

Foreword by DONNA OGLE

HEINEMANN
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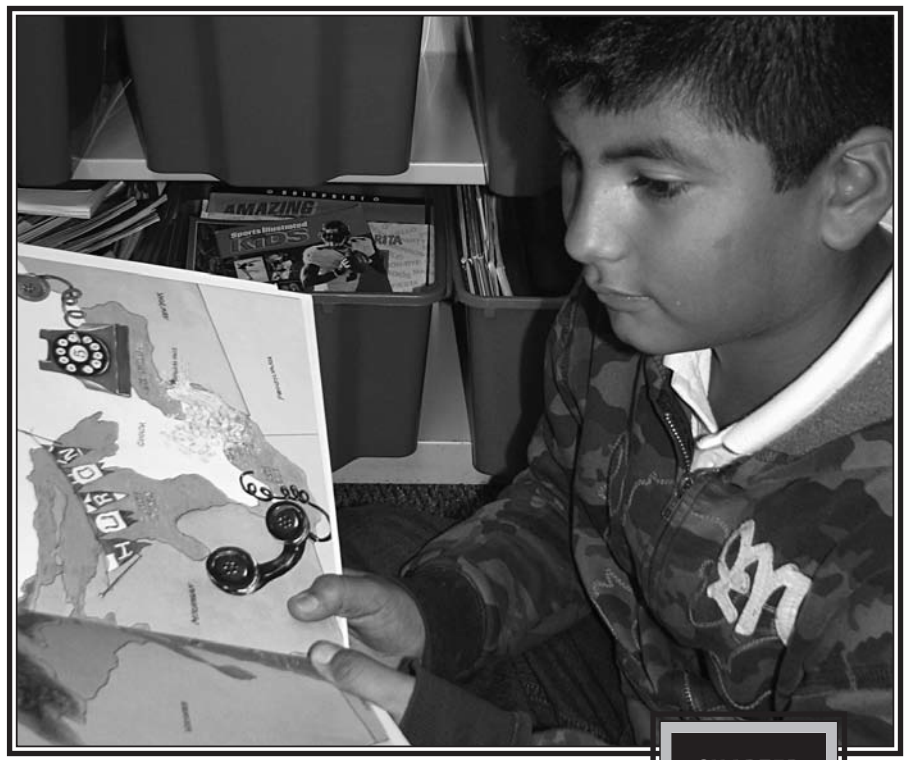


CHAPTER 1

Why Teaching Subject Area Words Can Make or Break Achievement

IT WAS AFTER LUNCH IN MARIO'S THIRD GRADE CLASS and time for social studies. Mario was reading over a worksheet that featured ten vocabulary terms related to geography, including *cardinal directions*, *poles*, *equator*, *geography*, *latitude*, *longitude*, *map key*, *legend*, *hemisphere*, and *compass rose*. His task was to alphabetize the list, write definitions for each word, and then use each in a sentence. Like many of his classmates, Mario spent the next fifteen minutes diligently looking up the words in dictionaries and in the textbook's glossary before cobbling together the definitions. Adapting the first

meaning presented in the dictionary for the word *legend*, Mario wrote this definition:

A story from the past

He then wrote a sentence containing the word *legend*:

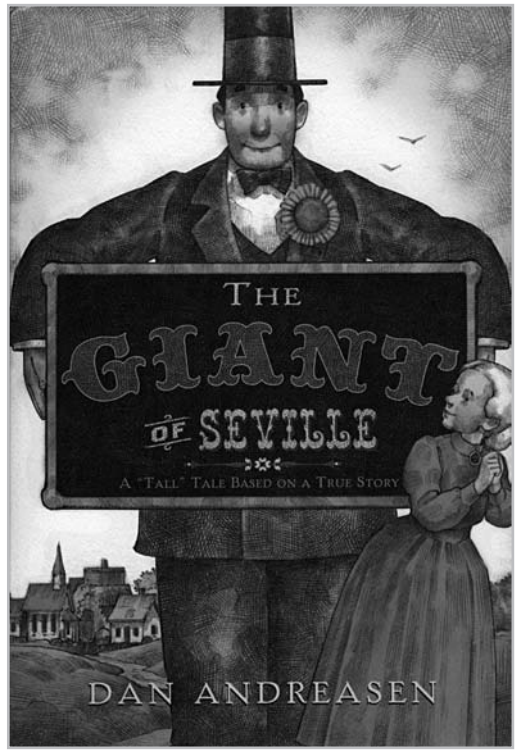
The legend of the coyote was told by the Native Americans.

Given that much of his experience in third-grade social studies thus far had focused on Native Americans in California, the definition and sentence are reasonable guesses. In addition, he had been reading about legends, fables, and tall tales during the literacy block and especially enjoyed *The Giant of Seville* (Andreasen 2008). Recalling that the "tall tale" in that book turned out to be true, he added another sentence to his worksheet for good measure:

Sometimes a legend is true,
like with the giant named Martin Bates.

Mario slogged through the rest of the task, completing definitions and sentences for the other nine words designed to introduce students to the unit of study. For some of the words you could see Mario understood the topic at hand, while his work on other words displayed that he was not making worthwhile connections between this exercise and the historical context. It's not surprising, then, that the task did not get Mario any closer to mastering the content standards focused on geography. Nor did this vocabulary task prepare him for the reading he was expected to do, the mapping skills he was expected to develop, or the classroom discussions he was expected to participate in. The vocabulary work took class time but did not scaffold his understanding of content in any significant way. Classmates of his who did "better" than him on the task also lost precious class time, for the task didn't deepen their knowledge either.

Quite frankly, we don't have this time to waste on ineffective approaches. Vocabulary development is critical, and yet few teachers feel surefooted about how to achieve it. It seems as though over the last few years there has been more attention in the field paid to the issue of teaching subject matter vocabulary, yet when we looked to the research base for next steps, we found it has focused on isolated instructional routines and activities. Our motivation for developing this book was to discover what works in improving subject matter vocabulary over the long haul. We wanted to design and implement an intentional vocabulary approach that was part of the



overall classroom experience that students would have, and not simply a series of activities to episodically engage them in word learning.

We are also concerned that despite the evidence that vocabulary learning should occur across subjects, in many elementary classrooms this instruction is relegated to the language arts curriculum. Scott, Jamieson-Noel, and Asselin (2003) reported that only 1.4 percent of instructional time in the elementary content disciplines (math, science, social studies, and the arts) was devoted to word learning. A major purpose of this book is to help you change this statistic in your classroom.

And so we set out to identify effective practices. We tried them out for ourselves, in our own classrooms as well as in the classrooms of our friends and colleagues, to determine how students could be engaged with subject area vocabulary learning. In addition, we have tracked the implementation of these approaches using both quantitative and qualitative measures, to ensure that they are effective (e.g., Fisher and Frey 2007, 2008), so we would feel comfortable making specific recommendations.

With this book, our goal is to show you a teaching and learning framework that helps make students self-regulating, independent word learners.

We want to move your thinking hundreds of miles away from the view of vocabulary instruction as disembodied lists for students to memorize and toward a stance where word learning is fun for students, is an excuse to interact with peers, and gives students the intellectual and social currency of being able to think, speak, read, and write with greater facility.

Purposeful Word Learning: Improving Students' Reading, Writing, and Thinking

We've organized the rest of this chapter around the questions that elementary teachers ask us concerning vocabulary learning. We consider what research and our own teaching experience have to offer on these issues, so that we all have in mind the same lay of the land. Then, in each of the following chapters, we focus on one facet of vocabulary development. Taken together, these facets provide you with an *intentional vocabulary initiative* that can transform students of all abilities into proficient readers, because they bring to texts banks of word knowledge that help them access the language of ideas. Students become proficient writers, too, for their vocabularies help them say what they mean—and convey what they know.

What Are the Benefits of Spending Time on Vocabulary Instruction?

Teachers see evidence of the need for vocabulary instruction each time they sit down with a guided reading group: without vocabulary knowledge, the reading material at hand is incomprehensible. Young readers in particular come with a wide range of language experiences, so vocabulary knowledge cannot be assumed. One child may have spent hours in the natural history museum gazing at dinosaurs, while the child next to her may know about dinosaurs only from reruns of *The Flintstones*. Which child is likely to comprehend the reading on *Tyrannosaurus rex*?

Teachers juggle math, science, social studies, reading and language arts, as well as the visual and performing arts. In addition, there is the constant pressure of standardized testing performance. You're right to wonder, *What can I leave out? I don't have enough time as it is!* If you're covering vocabulary and not seeing the results you'd like, it is reasonable to think it's a losing battle to pour more time into vocabulary instruction. After all, you can't run off to the natural history museum to catch up the ones who haven't had those prior language experiences.

But here's the thing: vocabulary is among the greatest predictors of reading comprehension (Baker, Simmons, and Kame'enui 1998), and reading

A guided reading group

comprehension, it almost goes without saying, is central to learning in the content areas. The relationship between vocabulary and reading proficiency is so powerful that there is evidence that vocabulary size in kindergarten is an effective predictor of reading comprehension and academic achievement in the later school years (Scarborough 2001).

If you doubt this, consider the fact that missing just 5 percent of the words makes a text nearly incomprehensible. Five percent doesn't sound like a lot, but try to read the passage in Figure 1.1, in which we have removed 5 percent of the text and replaced it with nonsense words. You may glean that the text is about coffee, but you'd have a hard time answering questions about the text, right? In this case, you probably have significant background knowledge that you can use to fill in the gaps in your word knowledge. Imagine if you had limited background knowledge about the topic and didn't know the words. The text would become incomprehensible.

Now consider the role that vocabulary plays in writing proficiency. We know that writing is thinking. (Have you ever tried to write and not think? Impossible.) So, how does a writer think? He thinks in language, in words.

Factoid 1

Caffeine is tasteless. A "strong" wepuha is mostly the result of the amount of coffee in relation to the amount of water. The longer a bean is sisku, the less caffeine it has. "Arabica" beans have less caffeine than "Robusta" beans. "Arabica" beans have more flavor than "Robusta" beans, which are mostly used in high-volume coffees and instant coffees.

Factoid 2

Wepuha is the way the bean is edusca, not the bean itself. You can use many different balksiks to produce wepuha coffee. You can also use the wepuha roasted coffee to make a larger cup of coffee. In the United States, wepuha roasting results mostly in a darker roast than wepuha roasting in Europe.

Figure 1.1 *Checking comprehension when 5 percent of the words are unknown*

In general, the more words a person knows, the better he is at writing. And the better he is at writing, the better he is at thinking. We know that this sounds like circular logic, but we think of it as recursive and interconnected. As students learn, they acquire labels for ideas. As they think, they can use those labels. As they write, they clarify their understanding of those ideas and even generate new understandings. Writing is evidence of the incorporation of information. Extensive vocabularies help one refine one's thinking through more nuance and sophistication. Word knowledge, in a sense, makes us smarter. Suffice it to say that vocabulary instruction improves writing (Cantrell 1999; Stevens 2006).

What Does It Mean to Know a Word?

You ask the students in your first-grade class about the meaning of the word *triangle* and get a range of answers. Some make a triangle shape with their fingers, while others might point to a triangle shape posted on the wall. One student says that a triangle is a musical instrument. A few are able to tell you that it is a shape with three sides. How would you describe their knowledge of this term?

What does it mean to know a word? Is it to recognize it? To be able to define it? To use it correctly—in all of its shades of meaning—in our verbal and written language? Consider the word *provocative*. You've heard it and no doubt used it. But think about the depth of word knowledge required to use this word well. As a case in point, an editor wrote in the margin of our book draft, "This is quite provocative!" We knew she meant challenging, thought provoking, not that our statement about reading aloud was the stuff of a romance novel. But would the average student be able to tease

out the appropriate meaning from context? Wise word users have a depth of knowledge.

Beck and her colleagues (2002) get at this idea of depth by distinguishing between shallow and deep word knowledge. By shallow word knowledge, they mean that students memorize definitions and do not have the deeper knowledge of the concepts that the words represent. To extend their metaphor, the range of people's word knowledge is like the difference between the shallow end of a swimming pool, the deep end, and the deep blue sea (in the case of linguists who know several languages or those well versed in word histories). While our students might not reach the deep-sea levels of professional linguists, our goal as teachers ought to be that they are able to know words deeply enough that they can use them flexibly across content areas, something we look at in more detail in later chapters.

So, depth matters. That is, knowing the multiple meanings of words matters, and reasoning a word's meaning in context matters. This view of vocabulary is relatively new. Vocabulary knowledge studies from the 1940s and 1950s focused on recall and recognition, usually through one-trial learning, followed by a quiz asking participants to list words when given the meaning (recall) or to identify the correct word on a multiple-choice test (recognition). Researchers soon saw the limitations of this kind of contrived measurement, especially because it did not reflect the ways in which vocabulary knowledge is authentically used. (But you can see how this recall-and-recognition approach continues to dig its claws into instructional ideas.) Measurement of vocabulary knowledge was refined to assess five dimensions (Cronbach 1942, cited in Graves 1986):

- *generalization* through definitional knowledge
- *application* through correct usage
- *breadth* through recall of words
- *precision* through understanding of examples and nonexamples
- *availability* through use of vocabulary in discussion

Dale, O'Rourke, and Baumann (1971) further refined our concept of vocabulary knowledge by noting that words do not simply fall into two categories, known and unknown. Instead, they suggested that there are degrees of knowing a word. Their continuum consists of four stages:

1. having never seen or heard the word;
2. having heard the word, but not knowing what it means;

3. recognizing the word in context; and

4. knowing and using the word.

The problem with the vocabulary worksheet Mario and his classmates were given was that it didn't really measure the depth of students' word knowledge across these four phases. Mario had shallow word knowledge, and the poorly designed worksheet task allowed him to go down the wrong garden path—that is, work with the wrong word meaning—without realizing it. If Mario had gone into the task with a deep knowledge of the word *legend*, he might have written something like "The legend of a map helps us understand scale and symbols." A stronger vocabulary activity would have scaffolded students' understanding more, guiding Mario and his classmates to consider context when choosing between the meanings of *legend* as a story passed down through generations and as a guide useful for map reading.

Focus on English Language Learners

Children who are learning English are especially vexed by multiple-meaning words. Even as they acquire a new language, they might be limited to a single meaning of a word. Anticipate possible areas of confusion and provide an explanation of new word knowledge. When applicable, link it to previous knowledge, and give written examples of multiple-meaning words using simple graphic organizers.

How Do I Get My Students to Own Their Word Learning?

In too many classrooms, we see teachers working hard to teach vocabulary, only to have it fade away as soon as the next unit begins. For example, there's lots of effort to make sure that students understand terms like *heat* and *temperature* during a science unit on the solar system; however, a few weeks later, these terms seem to disappear from students' vocabulary when they begin working in the unit on energy. We were in a classroom one day when a student indignantly told his teacher, "I thought we only needed to know that for the sun test!"

At some point, it would seem that students must move from merely learning words to learning *about* their own learning of words. The role of metacognitive awareness in the learning lives of students is critical in their continued development as self-regulated learners. The National Research Council (1999) has had quite a bit to say about this. It defines *metacognition* as "people's ability to predict their performances on various tasks . . . and to monitor their current levels of mastery and understanding" (12). Learning, after all, isn't just about being able to recall information; it is a process enacted upon by the learner. When you hear talk about "active learning," you're hearing the rumble of metacognition. A goal of teaching for metacognitive awareness is that students develop an adaptive expertise so that they can apply what they know flexibly and use what they know to learn new skills—analogous to the difference between being able to follow a recipe and creating a new one (Hatano and Ignaki 1986).

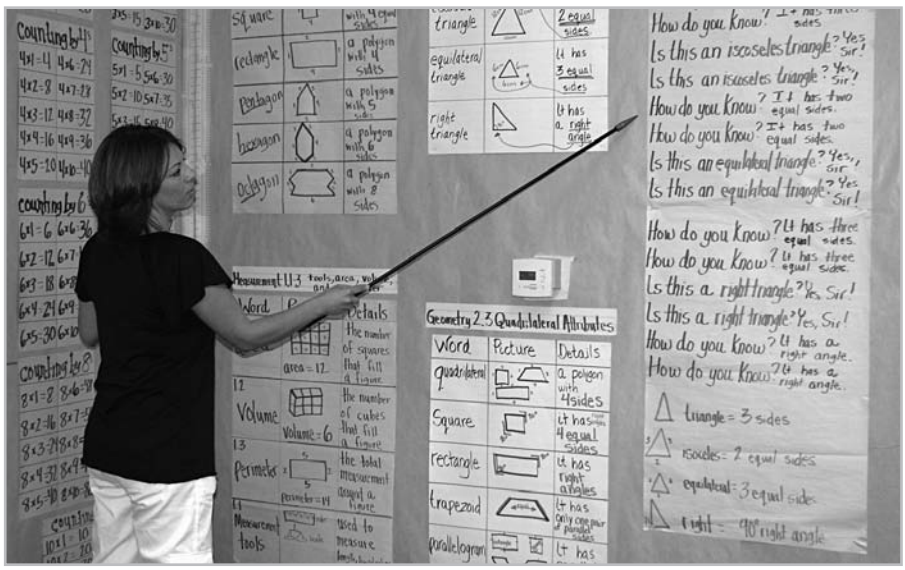
Now think about this: When was the last time you acquired new vocabulary by writing a list and then memorizing it? Let's say you bought a new hybrid phone and dove into the instruction manual so you could operate it. Undoubtedly you encountered words you knew (*phone*, *camera*, *address book*), words you partially knew (*multiconnector*, *messaging button*), and terms that were completely foreign to you (*SIM card*, *Bluetooth*). First, you noticed what you knew and didn't know (monitoring). Then you set about learning the terms because you recognized that you couldn't understand the manual without knowing these words. You looked at the diagrams and compared them with your phone. You checked the back for a glossary. You may have even enlisted the help of a tech-savvy teenager to give you a hand. The point is, you could predict the likelihood of your success with the task, you knew you needed to master the vocabulary, and you knew how to help yourself learn it. That's metacognition at work.

Similarly, students need to be taught metacognitively as they acquire vocabulary knowledge. Teachers model their own thinking as they encounter words in text that might be confusing and show students how they figure out those terms. As we will also see, students need rich oral language experiences that cause them to utilize new vocabulary in discussion and clarify and refine their understanding of words with peers. They also need to learn strategies for helping themselves when reading independently, especially in getting unstuck when they encounter a tricky term. Ultimately, subject area word learning is as much about problem solving as it is about acquisition.

How Many Words Do Students Need to Learn?

One of the most common questions teachers ask concerns the number of words that students need to know to be successful. Nagy and Anderson (1984) noted that students would come in contact with 88,500 word families by the time they entered high school. Word families are groups of words consisting of the same root or base and their associated compounds and derivates.

These 88,500 word families translate to about 500,000 individual words. Thankfully for readers and their teachers, about half of these word families are used so rarely that students will likely encounter them just once in a lifetime. (It's unlikely that you will ever need to know that *blepharospasm* is an involuntary twitching of an eyelid, unless you are an ophthalmologist.) Even reducing the number of word families and words a student needs to know by half is overwhelming, especially if you think that you have to directly teach all of these words! If a student needs to know 250,000 words and has 180 days of school for thirteen years, that student will have to learn 107 words per day and never be absent. As we will see throughout this book, students learn a lot of these words while reading. Other words must be explicitly, systematically, and intentionally taught. They key to improving student achievement is knowing the difference between words students will learn automatically and words they will need to be taught.



Word wall of content area words

Which Words Should I Teach?

Over the past decade, a great deal of agreement has been reached about vocabulary instruction. In general, experts agree that there are three types of words that students need to know. Beck, McKeown, and Kucan (2002) identify these as Tier 1, Tier 2, and Tier 3 words. Others, such as Vacca and Vacca (2007), identify these words as general, specialized, and technical. If Mario's teacher had used this classification system, the words she selected might appear in the categories identified in Figure 1.2. We consider each of these classifications in this chapter and then use this information to select words for systemic instruction in Chapter 2.

General Vocabulary

By Tier 1 or general vocabulary, these researchers mean words that are basic for reading. These words are typically in the spoken vocabulary of most students and rarely need to be taught. Unfortunately, in many classrooms instructional time is wasted on explicit instruction for words students will learn in other ways. These words develop as students read and are read to (see Chapter 6 for more information about this process). General vocabulary words are not conceptually difficult, either, and are especially appropriate for learning through wide reading.

Specialized Vocabulary

Tier 2 or specialized words are those high-utility terms that often change meaning in different contexts. They are the words that confuse most readers

General (Tier 1) Words	Specialized (Tier 2) Words	Technical (Tier 3) Words
Area	Elevation	Cardinal direction
Direction	Globe	Compass rose
Distance	Hemisphere	Continent
East	Legend	Equator
Land	Position	Geography
Location	Region	Latitude
Map		Longitude
North		Map grid
Place		Map key
South		Meridian
West		

Figure 1.2 *Vocabulary words for geography unit separated by category*

and are significantly undertaught in most classrooms. This category also includes words for which students know some part of the meaning, but do not have mastery of the complexity of the words' meaning. These words are critical for understanding. Imagine the student who is working with the word *expression* as it relates to a character's expression in a piece of fiction. Later that day, the student might be expected to write an expression during math. Mario's teacher acknowledged that these words were critical for understanding the content but failed to recognize the effect that multiple meanings and context have on words such as *legend*, *hemisphere*, and *cardinal*.

As another example of the power of these specialized words, read the following sentence from a sixth-grade textbook:

> Catherine the Great, a minor aristocrat from Germany, became Empress of Russia when her husband Peter, the grandson of Peter the Great, was killed.

The specialized word in this sentence is *minor*. To test our hypothesis that students use context in determining word meaning, we asked one hundred fourth graders, one hundred seventh graders, and one hundred tenth graders what *minor* meant in this sentence. On a multiple-choice test, the majority of fourth graders indicated that Catherine the Great was "digging for gold" when she met her husband. Interestingly, the majority of seventh graders got the question right, selecting the response that she "wasn't very important." The highest percentage of incorrect answers came from the tenth graders (70 percent), who most often selected the choice that Catherine the Great was "underage when she married Peter."

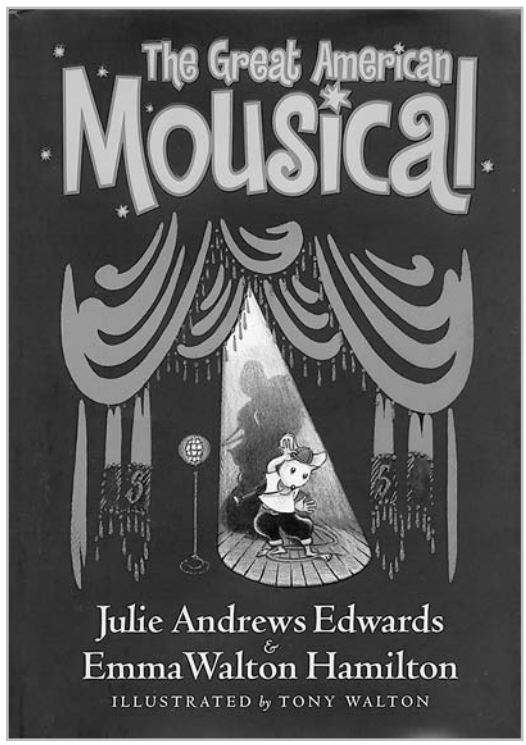
Again, context matters. Students use what they know and are familiar with to determine word meanings. In California, fourth graders study the Gold Rush and in tenth grade students think about their age all of the time as they wait to drive, vote, and legally enter a bar. To ensure their understanding of this text, the teacher would have to attend to the word *minor* by providing students multiple opportunities to use this specialized term in different contexts. This might occur through word sorts, word maps, or writing tasks.

Technical Vocabulary

Tier 3 or technical words are those that are bound to a specific discipline. These are the seductive content words that teachers love to focus upon: *ecology*, *pointillism*, *hieroglyphic*, *vowel*, *parallelogram*, and so on. Sometimes these words need to be directly taught and other times they simply need to

be defined. The decision to teach the word versus explain the word should be based on the future utility of the word and its relative importance in facilitating or blocking understanding. Again, conceptual difficulty plays a role in what gets taught and how. The term *parallelogram* represents an intricate knowledge set in mathematics and defies simple definitional instruction, especially because of its contrastive concepts, *quadrilateral* and *rhombus*. (You may recall from your own math classes that a parallelogram is a quadrilateral with parallel opposite sides, and a rhombus is a quadrilateral with equal sides.) By contrast, it is possible to teach *pointillism* through definition—it is a painting method that uses very small colored dots to create a larger image. There are deeper layers to pointillism: it uses primary colors to fool the eye into believing there are secondary colors, and George Seurat is a major artist associated with the technique. However, goals of recall, recognition, application, and precision influence the time an art teacher will spend on instruction. Most obviously, the important words to teach are those that are critical for understanding the text or the content.

For example, while reading aloud *The Great American Mousical* (Edwards and Hamilton 2006), Ms. Ruiz chose to explain the word *metropolis* and



not spend extended time on teaching it. The passage that opens the book reads:

> If you could stand upon a faraway star and look down on planet Earth on a cloudless evening, you might just notice a glowing pool of light . . . and chances are, that glow would be New York City. If you could leap from your star and fly down, down, down into the heart of that great metropolis, you would land in the most twinkling, sparkling place of all—Times Square. (1)

Ms. Ruiz was more interested in the story that Julie Andrews and her daughter had to tell and knew that she would teach the words from the book that related to drama such as *scenery*, *balcony*, *orchestra pit*, *boxed sections*, *proscenium*, and *apron of the stage*. These words were consistent with the visual and performing arts standards Ms. Ruiz wanted to teach and were words that students of drama should know. In other words, they are the technical words that help define the discipline.

Intentional Vocabulary Instruction

Sadly, vocabulary instruction in many classrooms is often neglected or occurs in ineffective, or even harmful, ways. To change this and increase the quality of vocabulary instruction requires a sustained focus on content area vocabulary. Teachers have to teach students *how* to learn new words, not just the meanings of specific words. If word learning occurred only through direct instruction, as some researchers recommend, then teachers would have to spend every minute of every day getting students to learn their daily 107 words. In contrast, we think that students should be taught how to learn words through wide reading, teacher modeling, *and* explicit, systematic, and intentional instruction.

We have developed a subject area vocabulary initiative that consists of five big ideas. Each of the five big ideas is further developed in the chapters that follow. Taken together, this approach serves to develop the general, specialized, and technical vocabulary necessary for student success, both inside and outside of school. For now, let's briefly explore each of the big ideas.

1. *Make It Intentional.* First and foremost, we have to intentionally select words that are worth teaching. We need to carefully consider the types of words students need to know and learn. Students need to understand technical words to become proficient with the discourse of the discipline. They also

need to know the specialized words that are commonly used but that change their meaning based on the context or content area in which they are used. The key here is to determine which words students need to know and how to best teach them. Accordingly, in Chapter 2, we focus on an instructional design model that is intentional and takes into account what is known about human learning. Our intentional vocabulary learning model is based on a gradual release of responsibility of learning theory, which suggests that teachers should purposefully plan to increase student responsibility for learning.

2. *Make It Transparent.* One way that students learn is through teacher modeling. The purpose of this component of subject area vocabulary instruction is twofold. The first is to develop what Michael Graves (2006) calls "word consciousness" by drawing attention to the language used by the writer. The second is to teach procedures for problem solving unknown or poorly understood words. It is also important to discriminate between these two purposes and teaching specific vocabulary words. It seems reasonable to suggest that modeling word-solving strategies and word-learning strategies across content areas will help students learn words by providing them with cognitive guidance and a how-to model. However, using teacher modeling to teach individual words out of context is an inefficient use of instructional time. When teachers read aloud to their students and share their thinking about the words in the text, they develop their students' metacognitive skills.

3. *Make It Useable.* While we know that modeling is critical for student success, we also understand that immediately after this modeling, students have to use the words they've been taught if they are to own them. Students simply will not incorporate content area vocabulary into their speaking and writing unless they are provided multiple opportunities to do so. Collaborative tasks that require students to use newly acquired vocabulary verbally or in writing are thus a part of our model. Authentic usage is essential for acquisition of vocabulary knowledge.

4. *Make It Personal.* Independent learning is a vital but often undervalued aspect of word acquisition. In this strand of our model, students are given tasks that allow them to apply what they have learned in novel situations. This component is critical if students are to move beyond passive participants and incorporate new subject matter word learning into their funds of knowledge. Students have an opportunity to take ownership of the vocabulary by integrating it into their personal verbal and written repertoires.

5. *Make It a Priority*. We know that reading has an impact on vocabulary. As such, students must be engaged in authentic reading tasks, reading texts

they can read, on a daily basis. The best way to do this is to ensure that the school places a high priority on wide reading. In reading widely, students acquire some of the general words they need to know. In addition, they see familiar words in diverse contexts and add new meanings to known words. In addition to wide reading, another schoolwide component of our subject area vocabulary approach encourages all teachers to focus on high-frequency prefix, suffix, and root words. In focusing on these words, students develop transportable skills in making educated guesses about words they do not know. As we will see in Chapter 6, there are clusters of words that share meanings, and studying them together helps students remember them.

What Could Mario Do Had This Been His Experience?

Remember Mario's vocabulary task? Let's reengineer his learning through the lens of systematic, explicit, and intentional content area word learning. First, he would have read about the use of geography and map skills in class and at home. Doing so would have built his background knowledge and vocabulary. A list of sample books representing a range of difficulty levels can be found in Figure 1.3.

At the same time, his teacher would have read aloud to the class and explained her thinking as she did so. She would have solved unknown words during her readings and modeled for students how they might figure out an unknown word. For example, had she read *Geography from A to Z: A Picture Glossary* (Knowlton 1997), she could have shared her thinking about some of the terms introduced in the book. She also could have projected a map from the Internet (see, for example, www.nationalgeographic.com/resources/ngo/maps) and explained her understanding of each of the terms on the map, including *legend*. She would have described her experiences with maps, both positive and negative. She might even have taught the

Aberg, R. 2003. *Latitude and Longitude*. New York: Children's Press.

Cummings, P., and L. Cummings. 1998. *Talking with Adventurers*. Washington, DC: National Geographic.

Layne, S. L. 1998. *Thomas's Sheep and the Great Geography Test*. Gretna, LA: Pelican.

Parsons, J. 2006. *Geography of the World*. New York: Dorling Kindersley.

Petty, K. 2000. *The Amazing Pop-Up Geography Book*. New York: Dutton.

Shulevitz, U. 2008. *How I Learned Geography*. New York: Farrar, Straus, and Giroux.

Wade, M. D. 2003. *Types of Maps*. New York: Children's Press.

Figure 1.3 *Diverse books about geography*

students "The Longitude/Latitude Rap," by Ron Brown, found at http://songsforteaching.com/geography/longitudelatitudemapreading.htm.

In addition, Mario's teacher would have focused instruction on the specialized and technical words she selected. As is further explored in Chapters 4 and 5, she could have used semantic feature analysis, concept maps, text impressions, or vocabulary cards. For instance, she could have created a word map with the class on the word *equator*, like the one in Figure 1.4.

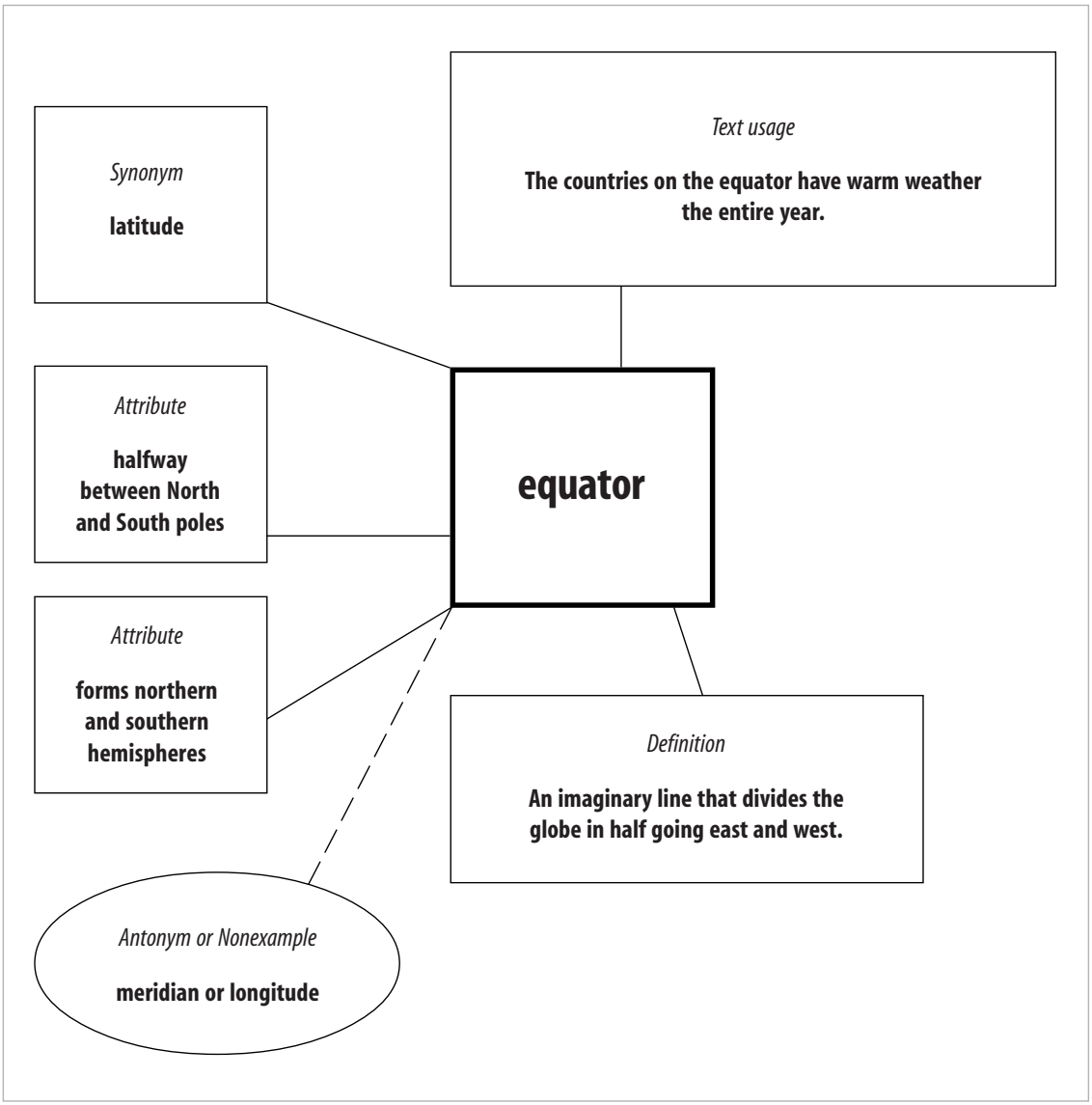


Figure 1.4 *Word map for* equator

And finally (if he had been lucky), Mario would have been exposed to a number of prefixes, suffixes, and roots that would relate to the words under investigation. His teacher could have shown her students that *hemisphere* contains the prefix *hemi-*, meaning half. Or she might have explained that the word *geography* itself contains the prefix *geo-* from the Greek word for earth, which generally means ground or land, and *graphy*, which means writing or the study of a written form of knowledge.

Taken together, this intentional approach to vocabulary development would have strengthened Mario's vocabulary knowledge inside and out of this content area. In addition, he would have developed a deeper conceptual and definitional understanding of the words in the unit, having learned a number of words inside and out. He would also know how to figure out unknown words because his teacher would have modeled looking inside and outside of specific words to determine word meanings. And finally, Mario would have been more likely to apply the words correctly in his own speaking and writing, both inside and outside the school building.

The Takeaway

Without question, vocabulary knowledge is critical. Knowledge of and about words not only serves as an excellent predictor of students' achievement but is inexorably linked to overall reading comprehension and academic achievement. Elementary teachers witness each day the struggle some of their students face as they labor through text that uses unfamiliar words. However, the enormous vocabulary demand on elementary students makes it impossible to provide direct instruction on each and every unfamiliar word they encounter. In order to do so, you would need to suspend any other teaching, and in the end it wouldn't be effective anyway because students wouldn't be getting the experiences they'd need to make word learning meaningful. Instead, students need a combination of approaches that together foster vocabulary acquisition and lead to more sophisticated language usage. The remainder of this book describes the components of an intentional approach for vocabulary development throughout subject areas. With this intentional approach, students become proficient readers, writers, and thinkers about the biological, physical, artistic, social, and literary world around them. In other words, the focus on subject area vocabulary ensures their entrance into the wide world of knowledge.