CHAPTER 1

An Introduction to Word Recognition

WHAT YOU NEED TO KNOW ABOUT HOW WORDS WORK

GUIDING QUESTIONS

- How does word recognition influence reading comprehension?
- How can skilled readers recognize words so quickly, even unfamiliar words they may never have seen before?
- Why is a "one-size-fits-all" approach to word knowledge instruction not effective?
- How can a developmental model of word knowledge serve as your instructional "road map" when teaching your students phonics, spelling, and word recognition?
- What is the "spelling–reading slant" and how does it play into your instructional practices?
- How is an "instructional toolkit" approach different from an "activity bank" approach?

Take a moment and think of something that you are skilled at, something that you have done so often that you don't have to really think about it anymore. It could be shooting a basketball, playing the violin, cooking a favorite recipe, backpacking, painting, speaking another language, or simply tying your shoes. Now, take a step back in time and try to remember what it was like *before* you had gained this level of skill, what it was like as you were first learning. To illustrate this point, consider the following experience of a man remembering what it was like just learning to play soccer as a child.

"During my first soccer practice with the 'Red Raiders,' two things quickly became apparent to me: (1) basic soccer skills that the professionals made look so easy on television, like controlling and dribbling the ball, were in reality *not* that easy, and (2) most of the other players on my team, those who had been playing since first grade, were a lot more skilled than me. Fortunately for me, our coaches taught us where we were, focusing on the foundational skills for the more novice players like me, while targeting advanced skills for the more experienced players.

"During my first couple of seasons playing soccer, I spent most of my time focusing on learning the basic skills and trying to use what I learned in actual games. In that first season, I remember having to focus so intently on simply controlling the ball at my feet during games that I could not look up to see where the other players on the field were around me. Because of this, I always played with my head down. This meant that I was unable to see the 'bigger picture' of the game around me in order to make accurate passes and good decisions. No matter how hard I tried to follow my coach's instructions to 'play with my head up,' I just couldn't. Simply put, I was not able to do two things at once: (1) control the ball with my feet, while at the same time (2) look around me to decide who to pass it to next. Simultaneously performing these two skills was impossible for me, because the first skill was a stepping stone for the second skill.

"However, I remember when things gradually started to click for me. Controlling the ball with my feet became more and more effortless and eventually automatic for me; I really didn't have to think about it anymore, I could just do it. This meant that I could finally play with my head up, enabling me to see the 'bigger picture' of the game. These foundational skills allowed me to move on to more advanced skills like 'give and go' passes. As I could see my own improvement, I was motivated to play and learn even more."

Why Focus on Word Recognition?

How does learning soccer, or learning any sport or skill, relate to word recognition and reading? Just like in soccer, where a solid foundation in certain skills, like ball control, is necessary to progress as a player, there are certain foundational literacy skills in which children must gain some level of proficiency if they are to continue to move forward as readers and writers. One of these foundational skills, word recognition, is the focus of this book.

Why is word recognition so important? First, the ability to accurately and automatically recognize words, even without semantic context, is a hallmark of skilled readers (Stanovich, 2000). Second, word recognition is a linchpin skill that enables access to and processing of written language and influences reading

comprehension (Perfetti, 2007). Third, and more specifically, word recognition is necessary (but not sufficient) for comprehension—the ultimate goal of reading. Children who can process words efficiently are better able to focus on the meaning of the text. Children who cannot process words efficiently, who must laboriously sound out words letter by letter and sound by sound, will have few attentional resources left to focus on the meaning of the word, sentence, paragraph, or story. Similar to a developing soccer player's inability to keep his head up until he mastered basic ball control, these children will have a difficult time seeing the "big picture"—comprehending the meaning of the text—while reading.

Figure 1.1 compares this resource trade-off between word recognition and comprehension for Kara, a skilled reader, and Sylvia, a struggling reader. According to cognitive psychologists, we only have a limited amount of cognitive resources, or "mental energy," to consciously spend on any one task at a time. During reading, recognizing words and comprehending text compete for these limited cognitive resources (LaBerge & Samuels, 1974).

For the sake of illustration, assume both Kara and Sylvia have 10 units of "mental energy" to spend on *either* word recognition *or* comprehension. Kara, the skilled second-grade reader, can read words accurately and quickly. Therefore, she only has to spend one unit of her "mental energy" on word recognition, freeing up her remaining resources—nine units—to spend on comprehending what she is reading. In contrast, Sylvia, a second-grade reader who struggles with word recognition, uses up the majority of her "mental energy"—nine units—decoding the words, leaving only one unit to spend on making meaning. All other factors

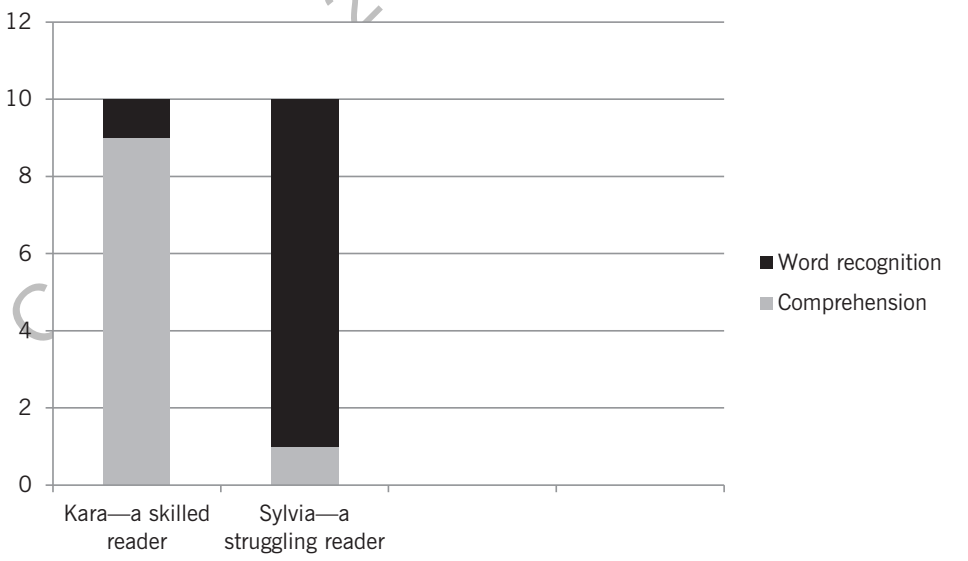

FIGURE 1.1. The word recognition/comprehension trade-off.

being equal, such as background knowledge and motivation, Sylvia will likely have a much more difficult time comprehending the same text. Put simply, children who can accurately and automatically recognize words will have greater cognitive resources available to make meaning while reading (Cunningham, Nathan, & Schmidt Raher, 2011; Duke & Carlisle, 2011).

The Language of Language: Defining Our Terms

Before we move on, we would like to discuss and define some foundational terms we will use throughout the rest of this book to talk about the language of word recognition. Remember that you can be skilled at word recognition (you are reading this book!) without knowing any of the cognitive language associated with it. Figure 1.2 illustrates how many of these terms fit together. Our "umbrella term" in this figure is *word recognition*, which we define as the ability to accurately identify printed words. Basically, we think of two different ways that readers can identify words: automatically or by decoding. Words that readers can recognize automatically are *sight words*, because the reader knows them by sight, without needing to resort to any conscious attempt to figure them out. As you can imagine, the more sight words a reader has, the fewer cognitive resources she must use on word recognition, freeing up her remaining cognitive capacity to make meaning.

If readers cannot recognize a word by sight, they must *decode* that word, meaning they must attempt to use their knowledge of the spelling system, our alphabetic "code," to identify the word. We think of two basic avenues for decoding words: by analogy or by word parts. Readers who decode words by analogy use

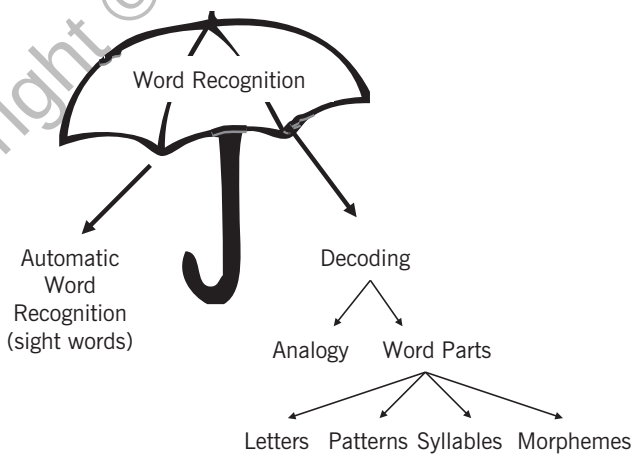

FIGURE 1.2. The word recognition umbrella.

their knowledge of a similarly spelled and/or sounded word to help them decode that word. For example, a child who cannot immediately identify the word *boast* could think of another word she already knows that is similarly spelled and/or sounded, like *roast* or *toast*, to help figure out the word.

A second way to decode an unknown word is by breaking a word down by familiar *word parts*. These word parts include *letters*, *common spelling patterns*, *syllables*, and *morphemes* (see Figure 1.3 for definitions and examples of these terms). For example, a beginning reader who cannot immediately recognize the word *mat* could sound out this word, letter–sound by letter–sound, as in *m-a-t*. A more advanced reader could break apart the unfamiliar word *explode* by breaking the word down into two syllables *ex* and *plode* (the reader may or may not know that the *ex* syllable is also a morphemic, or meaning unit, meaning "out," but simply being able to identify this syllable is enough information to help decode this word). The second syllable, *plode*, includes the familiar vowel–consonant–*e* spelling pattern, providing further information to the advanced reader.

What Does It Mean to "Know" a Word?

When, as skilled readers, we "read" a word, what exactly happens in our minds? How are we able to recognize words, even words we don't frequently encounter like *cynical* and *barbarous*, so quickly and accurately? What types of information do skilled readers know about words? What should we teach children to help them develop the deeply rooted, flexible word knowledge that equips them to (1) quickly and effortlessly recognize sight words and (2) efficiently decode unfamiliar words?

Definition	Examples
Letter—one of the 26 symbols used in the English alphabet to represent speech sounds.	*B, E, L, O, R, T, s, m, a, g*
Spelling pattern—a sequence of letters that consistently represents a sound.	*OU* in *cloud, mouth*, and *sound*
Syllable—a unit of sound anchored on a vowel that may or may not be preceded or followed by a consonant or consonants.	*Cat, I, stay* and *at* are one-syllable words *Thicken* has two syllables—*thick* + *en*
Morpheme—a unit of meaning represented in the spelling of words.	The *-ed* in *jumped* indicates the past tense The root *spect* (meaning "look") in words like *spectacles, spectator*, and *inspector*

FIGURE 1.3. The language of language: Defining our terms.

Three Essential Components of Knowing a Word: Phonological, Orthographic, and Semantic

When teaching children about words, we keep in mind three essential, interrelated aspects of word knowledge: (1) the phonological, or sound, representation of the word; (2) the orthographic, or visual, representation of the word; and (3) the semantic, or meaning, representation of the word. Figure 1.4 illustrates how the mind might store and represent these three different types of information about the word *stain*.

The phonological information for the word *stain* includes the four different phonemes that, when combined together, produce the oral form of the word *stain*—/s/-/t/-/ā/-/n/. The orthographic information for this word consists of the visual representation or image of the exact sequence of letters or letter patterns—*S-T-A-I-N*—that, when combined, form the spelling of the word *stain*. Importantly, a skilled reader would store this orthographic image in common spelling patterns, or "chunks," as in *ST-AIN*. Finally, the semantic information would include the definition of the word *stain* (a discoloration or spot) and how it might be used in a variety of contexts (such as the more figurative definition of *stain* as a "blemish" on one's reputation).

The stronger each of these three word knowledge sources are, and the stronger the connections among them, the more efficient and flexible a child's overall word knowledge will be. In this book, we pay particular attention to discussing how to teach the first two components of word knowledge: the phonological and the orthographic. However, we also incorporate the meaning aspects of word knowledge—vocabulary—throughout a number of the activities in the stage chapters (Chapters 3–8). We also encourage you, as the teacher, to discuss the meanings of words with children, particularly word meanings that children might be unsure of, even when the focus of an activity might be the spelling or sound of a word.

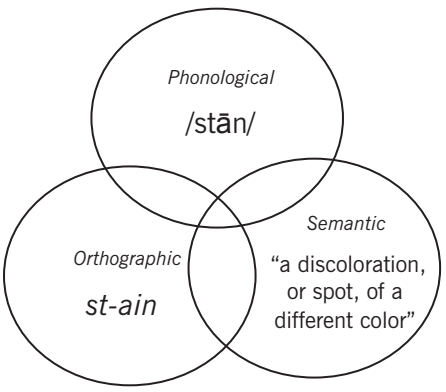

FIGURE 1.4. Three components of the word *stain*.

The Reading Mind as a Pattern Detector

We have used the following activity with teachers to illustrate how skilled readers and writers process words when we read and spell (Flanigan et al., 2011). Take no more than a second to read the following nonsense word, cover it up, and then try and spell it without looking back:

FLACKERNUSTER

Next, try the same exact procedure with a second nonsense word—read the word in about a second, cover it up, and then try to spell it without looking back:

TLKRNCEUFSREA

How well could you read and spell the two words? Which word was easier to read and spell? Which was more difficult? You probably found the second word much more difficult to read and spell than the first, even though (1) both words are unfamiliar to you and (2) *both words contain the exact same 13 letters* (go ahead and check if you don't believe us!).

What accounts for the difference in difficulty between the two words? This psycholinguistic experiment illustrates an important insight into how our minds process written words. First, *our mind is not a camera*. We do not take "pictures" of words that we store in our lexicon—our mental library of words—so that we can retrieve them when needed later while reading or writing. If this were the case, you would have been able to read and spell both words equally well because both words consist of the exact same letters.

So, why did you have an easier time reading and spelling the first word, even though you had never seen it before? It is because you could process the first word into a few *familiar spelling patterns*, or chunks, as illustrated below:

FL-ACK-ER-NUST-ER

You already knew the *fl*-consonant blend from words like *flight, fly, Florida*, and *fleece*. You already knew the *-ack* short vowel family from words like *back, sack, stack*, and *lack*. You know the *-ust* short vowel family from words like *must, just, dust*, and *bust*. And, you know the *-er* suffix from words like *bigger, stronger, mother*, and *father*. For this word, you didn't have to memorize 13 distinct letters; your reading mind only needed to process five chunks, or word parts, that you already knew quite well.

This ability to chunk words results in a much lighter cognitive load. For a skilled reader such as yourself, it makes all the difference in the world because it allows you to decode words you may never have encountered before; you don't

need to know the entire word, you just need to know the patterns that make up the word.

So, what does all this mean for teaching children about words? Because our reading mind is a *pattern* detector, not a camera, it makes very good sense to directly and explicitly teach children the common, high-utility *patterns* found in our language. For kindergartners at the beginning of the year, this may include listening for words that begin with the same sound, or onset, such as the initial consonant /b/ sound in *ball, boy*, and *bat*. For first-grade children in the fall, this might include looking and listening for short vowel word patterns like the *-ig* in *dig, pig*, and *big*. Finally, for second graders, this might include focusing on long vowel patterns like the *oa* in long *o* words such as *soap, boat*, and *moat*.

This focus on directly teaching common spelling patterns to children also makes sense in light of the research on eye movements during skilled reading. Contrary to folk wisdom, when skilled readers read connected text, they do not skip many words, nor do they read based only on partial cues (e.g., only attending to the *dev* in *development*). In fact, quite the opposite is true. We know that skilled readers (1) fixate on nearly every single word while reading connected text and (2) process nearly every single letter of the words they fixate on (see Adams, 1990, for a summary of the eye movement research in reading). If skilled readers process words and letter patterns so completely and thoroughly, it makes sense to directly teach developing readers how to accurately and efficiently process letters, letter patterns, and words.

So, instead of trying to teach our children every single word they might someday encounter, one word at a time, we can teach them the common, high-utility patterns that underlie the majority of words they will read and spell. For example, when we teach our children the long-*i* vowel–consonant–*e* pattern in words like *five, mine*, and *ripe*, we will also be teaching them how to apply this knowledge when encountering unfamiliar words that we might not directly teach, like *whine, prime*, and *pastime*. See Figure 1.5 for an example of 10 words (there are many, many more) that follow the long-*i* vowel–consonant–*e* pattern. When we teach this way, we like to say that when you learn one word, you actually learn 10 words, 20 words, or even more (Templeton, 2007). This approach to word knowledge instruction is powerful and efficient because we are teaching children (1) about *specific words* and, just as important, (2) about *how words work*.

Word Knowledge Development and Instruction: One Size Doesn't Fit All

Imagine that you have decided to learn to play the piano and have signed up to take weekly lessons from a local piano teacher. You walk into the studio for your first lesson, and your teacher immediately hands you an intermediate-level piano book.

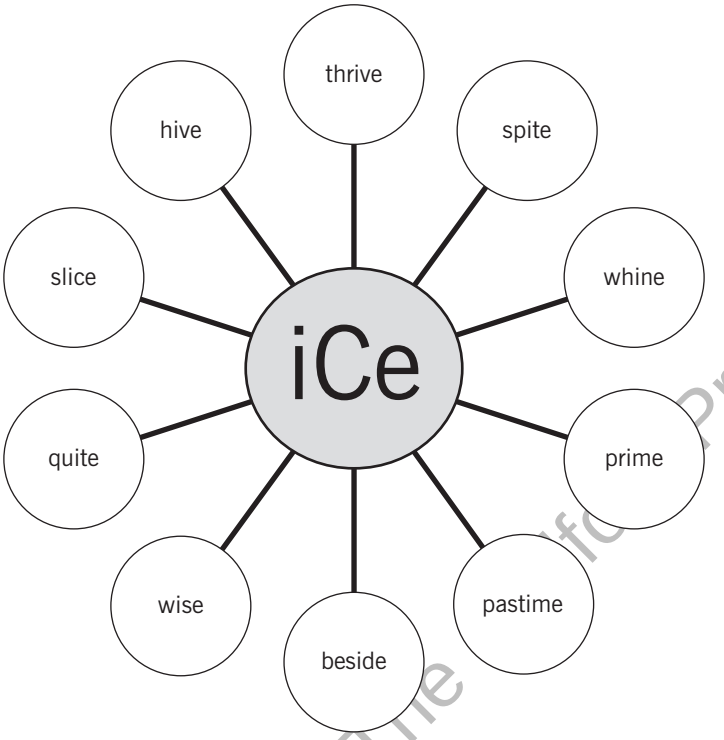

FIGURE 1.5. Ten words that follow the long-*i* vowel–consonant–*e* pattern.

Without bothering to find out what you already know about playing the piano or about music in general, your teacher proceeds to give you an intermediate-level lesson.

If you were a novice piano player, you would quickly become overwhelmed and frustrated. If you were really motivated, you might try and tread water for as long as possible, but your lack of foundational knowledge in music and technical skill would eventually come to light. You probably would not learn very much, if anything, during the lesson and might even walk out, give up, and probably not return for a second lesson. On the other hand, if you were an advanced player, you would quickly become bored and annoyed with the knowledge that you are not learning anything (just as the novice player, but for a different reason) and would probably also not return if things did not change very quickly.

Effective piano teachers do not base their instruction simply on your age or a predetermined starting point, such as "the intermediate level," because that is where most of their students are. Rather, any good piano teacher first finds out what *you* already know and what *you* can already do. He or she might ask about your background in music and how many years of lessons you have had.

Importantly, the teacher would also ask you to play some pieces of music to help gauge your ability level. Based on this initial assessment, she would determine where to begin your instruction, with an eye toward continually modifying and tailoring this instruction based on *your* speed of development and *your* specific needs.

Remember, though, that a piano teacher is teaching only one musician at a time. A band instructor gets a group of musicians, all at different levels, and must find ways to teach all of them. He likely has a goal in mind (a particular piece to perform on a date already set in the school's master calendar). The instructor uses that performance goal to strategize and to decide how to pace and group the musicians so that all will master what is required (and some will far exceed the requirements of that piece).

We know that the most effective literacy teachers differentiate instruction based on their children's needs, just like effective piano teachers and band instructors do. We want to avoid lessons in which all students are receiving the same word knowledge instruction, all learning the same letter of the alphabet, or the same "phonics rule" simply because they all happen to be kindergartners or first graders sitting next to one another in the same classroom, regardless of their word knowledge abilities.

Figure 1.6 illustrates what this one-size instruction might look like in a first-grade classroom, where the advanced readers, the "on-grade-level" readers, and the readers who are struggling are all being taught the same phonics feature: short vowels. If we do not adhere to this "one-size-fits-all" instructional mentality when teaching music, sports, or in other areas of education and learning, why would we do it when teaching word recognition, when as educators we know all too well of the great variability of skills within a single classroom? For example, short vowel instruction in the latter half of first grade would likely only benefit the struggling readers, leaving the others bored and neglecting their word recognition needs.

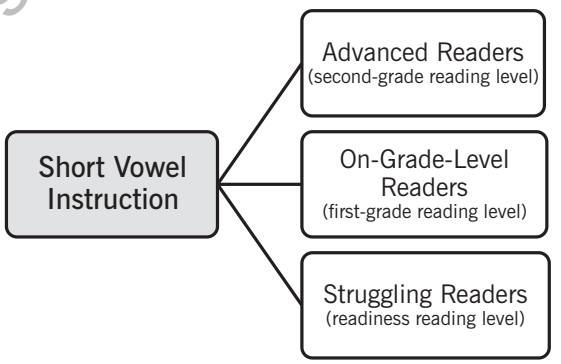

FIGURE 1.6. "One-size-fits-all" word knowledge instruction in first grade.

A Developmental Model of Word Knowledge: A Teacher's Instructional Road Map

Just like the effective piano teacher described above, effective literacy teachers can pinpoint where to begin instruction for different children. Of course, you can't pinpoint where to *begin* instruction unless you know where students are coming *from* and where they are *going*—what they already know and what they need to learn next. For this, you need an "instructional road map." Fortunately, based on over four decades of research, we have such an instructional road map for word knowledge development. During this time, researchers have articulated and elaborated on a developmental model of word knowledge that describes the skills progression that defines word knowledge development.

As the title of this book indicates, the ability to recognize words is a developmental skill. This skill is based on a child's underlying, abstract knowledge about how words work, which *develops* over time. We first learned about children's developing word knowledge at the University of Virginia, where we were incredibly fortunate to study and work in the McGuffey Reading Center. Much of our thinking about children's development and effective instruction has been shaped by our time and experiences there, and by the groundbreaking work in children's spelling and word knowledge done by Edmund Henderson and his colleagues at the University of Virginia. This line of research, known as the Virginia studies, culminated in a comprehensive model of developmental word knowledge that serves as a foundation for much of our work in this book (Bear, Invernizzi, Templeton, & Johnston, 2012; Henderson, 1990; Templeton & Bear, 1992; Templeton & Morris, 2000).

Based on the Virginia studies described above, and on other important stage models of development in the field of literacy (Chall, 1983; Ehri, 1997; Frith, 1985), we have organized word knowledge development in the primary grades into three stages for this book: emergent, beginner, and transitional. Chapters 3–8 of this book focus on word knowledge instruction for each of these stages.

How can this developmental model actually help you as a primary grades teacher? Many of the teachers we work with are familiar with the basic concepts and literacy skills that children should learn about words such as rhyme, phonemic awareness, alphabet knowledge, phonics, and acquiring a basic sight vocabulary. However, we are often asked questions such as:

"When should I teach what skill?"
"Should I teach some sight words in kindergarten?"
"When should I stop teaching sight words?"
"How much phonemic awareness is enough?"
"Should I teach the sounds first, and then the letters? Or should I teach them together?"
"What should I do for the struggling reader? For my more advanced writers?"

These questions, focused on the timing and pacing of instruction and on differentiation, are critical questions for teachers to ask. How do we answer these questions? This is where the explanatory power of a developmental model of word knowledge comes into play.

A Developmental Model of Word Knowledge for Grades K–2

Figure 1.7 summarizes the developmental model of word knowledge that we use for teaching our own teacher education students and that we used to organize this book. For each of the three stages of development—emergent, beginner, and transitional—we have listed the key developmental skills. Of course, Chapters 3–8 explore these stages in more depth. As you look over this model, note that the *developmental model is organized by stage, not grade*. The developmental model reflects the reality in your classroom: that you will have students in a range of skill levels. All first graders are not the same; some struggling first graders might be emergent readers, first graders on grade level might be at the beginner stage, and more advanced first graders might be at the transitional stage.

Stage	Developmental Skills

Emergent (Chapters 3 and 4)	• Alphabet knowledge (including letter recognition and sounds)
	• Phonological awareness:
	  ○ Rhyme and alliteration
	  ○ Syllable awareness
	  ○ Partial phoneme awareness
	• Concept of word in text
	• Decoding focus: Beginning sounds

Beginner (Chapters 5 and 6)	• Full phoneme awareness
	• Automatic recognition of high-frequency words
	• Features of focus:
	  ○ Consonant blends and digraphs
	  ○ Short vowels
	• Decoding focus: Letter-by-letter strategy (beginning, middle, and end)

Transitional (Chapters 7 and 8)	• Automatic word recognition leading to fluent reading
	• Features of focus:
	  ○ Vowel patterns (long, abstract, *r*-controlled)
	  ○ Consonant patterns
	• Decoding focus: Pattern or chunking strategy (including syllable and morpheme)

FIGURE 1.7. A developmental model of word knowledge for grades K–2.

The Developmental Model as an Instructional Road Map

We use the developmental model illustrated above as our instructional road map. When you determine a child's stage, you know what skills to teach. Because these skills are developmental, your children need to gain proficiency in skills that are foundational for learning at the next stage. For example, children cannot acquire a large bank of sight words (a beginning reader focus) if they have limited alphabet knowledge (an emergent reader focus). As we describe the developmental model throughout the rest of this book, we focus on the following three components of instruction:

- *What* to teach (what developmental skills to teach).
- *When* to teach (knowing when a child is best ready to profit from instruction in a certain skill—this will depend on the child's stage of development).
- *How* to teach (the most effective instructional strategies and methods).

The "what" to teach and the "how" to teach—the word knowledge features and instructional strategies—are covered in depth in each of the stage chapters (Chapters 3–8). However, how do we know "when" to best focus on a certain concept or skill, such as phonemic awareness, or sight-word instruction? In Chapter 2, we explain in detail how you can administer and analyze a Tiered Spelling Inventory (TSI) to help you determine what stage of development each of your students is in. When you determine what stage a child or group of children in your classroom is in, you can turn to that particular chapter in this book for instructional strategies that target the skills associated with learners at that level of development. When approached this way, word knowledge instruction changes from a "one-size-fits-all" model to a tailored approach that can result in precise and powerful differentiated instruction for your students.

The Word Knowledge Instructional Zone: Negotiating the Spelling–Reading Slant

Why would we include a spelling assessment in a book about word recognition development? The spelling–reading slant is another important concept that underlies effective word knowledge instruction (Frith, 1980; Helman, Bear, Templeton, Invernizzi, & Johnston, 2012). The spelling–reading slant posits that, in general, *spelling is harder than reading.* Or, put another way, *in general, children will be able to read words that they cannot yet spell.* For example, a second grader reading *A Perfect Time for Pandas* (Osborne, 2012), one of the *Magic Tree House* series books, would be able to read words like *different, weird, wrapped*, and *moment*, but might have difficulty spelling them accurately.

Figure 1.8 illustrates how this spelling–reading slant plays out instructionally. Notice how a child's spelling and reading ability defines the two ends of a *word knowledge instructional zone*. Spelling is the most rigorous measure of a child's word knowledge, providing a "window" into that child's knowledge about words (Henderson, 1990). Because spelling is more difficult than reading, spelling spotlights the "back end" of the word knowledge instructional zone. Reading spotlights the "front end" of the instructional zone.

Throughout the stage chapters, we include activities that, importantly, target both ends of this zone. Some activities will be focused on the "spelling end" of the zone, shoring up word knowledge features and patterns that students are "using, but confusing," but have not yet mastered (Bear et al., 2012). Other activities will be focused on the "reading end" of the zone, challenging children to grapple with word knowledge features and patterns that are at the very instructional edge of their conceptual grasp, providing an accelerated component to children's word work.

It is important to recognize that work on the spelling end of the zone is not only for spelling, and that work on the reading end of the zone is not only for reading. Working on both children's reading and spelling skills is important to developing their overall knowledge about how words work. It is through this type of balanced approach to word knowledge instruction that we can support our students' consolidation of certain foundational skills while continuing to move them forward in their literacy development.

Finally, there is a developmental component to the spelling–reading slant: The difference between children's reading ability and spelling ability tends to grow as their literacy skills progress over time. As Figure 1.9 illustrates, for children at the emergent stage, their reading and spelling ability are usually very closely tied together. As children move through the beginner stage and into the transitional

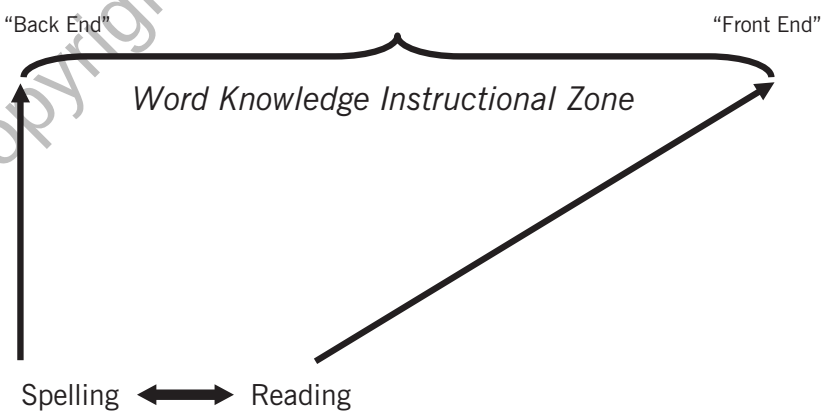

FIGURE 1.8. Word knowledge instructional zone.

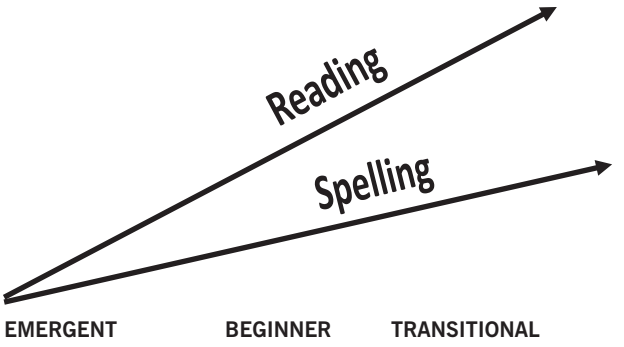

FIGURE 1.9. The relationship between children's reading and spelling growth over time.

stage, their ability to read and decode words begins to outpace their ability to spell words. You will see this difference in our stage chapters, as we place an increased focus on differential instruction for reading and spelling as children progress in their development.

The Balanced Literacy "Diet": A Comprehensive Approach to Literacy Instruction

The ultimate goal of word knowledge instruction is to help children become better readers and writers. Word study is one essential component of a balanced literacy "diet." This metaphor of the diet was another important guiding instructional principle we learned during our own education at the University of Virginia. Just as a balanced nutritional diet consists of the proper proportions of fruits, vegetables, whole grains, and lean proteins, a balanced literacy diet consists of balanced proportions of reading, writing, word study, and exposure to rich oral and written language. Figure 1.10 illustrates this four-part instructional framework, with the arrows indicating how each of these four components interacts with the others: growth in one area will promote growth in the other areas.

We believe that children should spend most of the instructional time during their literacy block (1) reading for meaning in appropriate and engaging texts at their independent or instructional reading level and (2) writing for real purposes. In addition, children should (3) be exposed to rich oral and written language at a level higher than they can read themselves, at the very cutting edge of their listening comprehension level. This rich language can be in the form of interactive read-alouds from fairytales, poems, stories, and engaging informational texts. Read-alouds offer many benefits, including introducing students to more sophisticated academic vocabulary and story language, exposing them to different genres and topics, and motivating them to read.

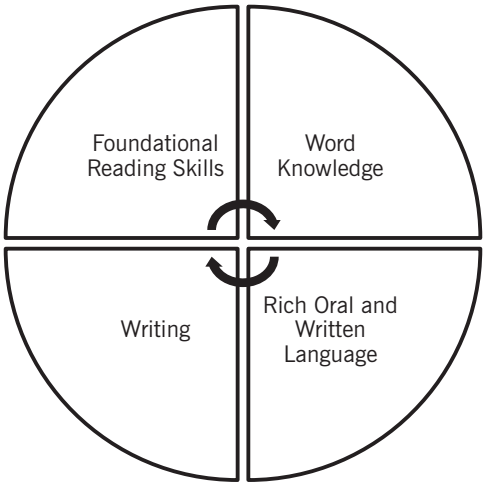

FIGURE 1.10. A balanced literacy diet.

Of course, the focus of this book is the fourth component of a balanced approach to literacy: word knowledge. While the amount of time we spend on word knowledge instruction is usually smaller than the other areas of the diet (approximately 15 minutes per day), it is just as critical. In each of the stage chapters in this book, we refer to the balanced literacy diet as an instructional framework for literacy. Throughout these stage chapters we also include Figure 1.10, but with slightly different proportions of recommended time for each component of the literacy diet depending on the particular needs of children at each stage. In summary, we want you to take away two important points from this section:

1. Children need high-quality instruction in word knowledge to support their development as readers and writers.
2. Word knowledge instruction alone isn't enough; children also need to spend large amounts of time reading, writing, and experiencing rich language as part of a comprehensive, balanced approach to literacy instruction.

The Word Knowledge Instructional Toolkit

According to dictionary.com (2013), a toolkit is a "set of tools designed to be used together or for a particular purpose." As this definition reveals, each tool in a toolkit has a particular purpose: A saw is used for cutting, a hammer for driving home a nail. As teachers, our instructional strategies and activities are some of our most important tools. Just as a carpenter would not use a hammer to cut a two-by-four, as teachers we shouldn't use an instructional strategy for the wrong purpose. For

example, we would not use a speed sort (an activity discussed in Chapter 8 that targets automaticity for transitional readers and writers) with a beginning reader who is still acquiring a basic sight-word vocabulary and is focusing on accuracy. In other words, our strategies and activities should match our instructional purposes and the needs of our children. We believe that teachers' ability to choose the right tool for the right job develops over time and marks teacher effectiveness. In this book, we get you started on building your toolkit and understanding its potential.

In each of the stage chapters we include an instructional toolkit tailored to the needs of children at that particular stage of development. To help you choose the appropriate strategies for your students and their instructional goals at each stage, we include the instructional purpose of each activity to help you decide which strategy to use to best target your children's specific needs. In addition, each toolkit is divided into four categories of activities that children should be engaged in over the course of a typical week: (1) reading words, (2) writing words, (3) manipulating words, and (4) transferring words to contextual reading and writing. Figure 1.11 illustrates the organization of our four-part word knowledge instructional toolkit that you will see again in each of the upcoming toolkit chapters for each stage (Chapter 4: Emergent Toolkit, Chapter 6: Beginner Toolkit, Chapter 8: Transitional Toolkit). Under each of the four categories in this figure, we identify the specific instructional word knowledge goals that each category of activity supports.

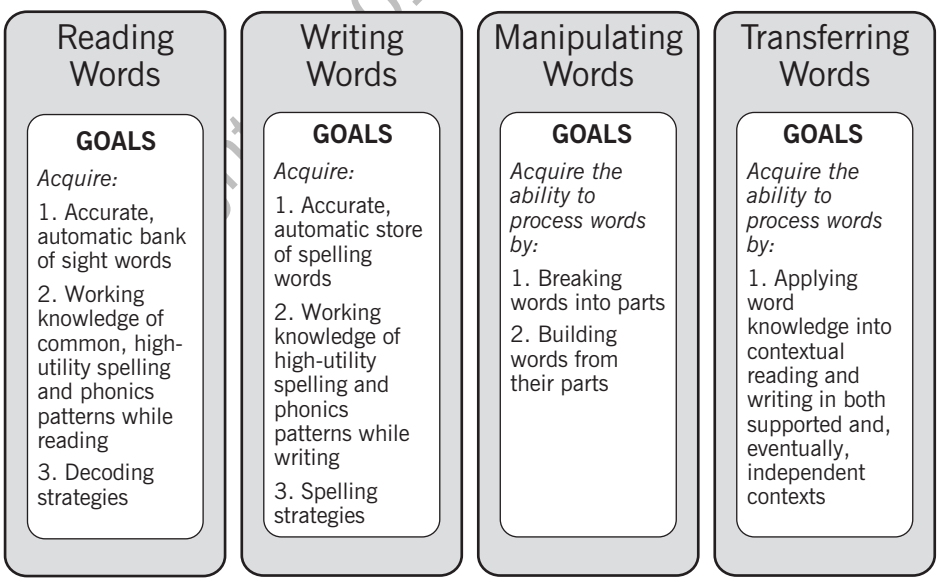

FIGURE 1.11. The four-part instructional Word Knowledge Toolkit.

Reading Words

First and most obvious, if we want students to be able to accurately and efficiently recognize words, we need to provide them with a lot of practice reading words. Practice reading words will support children's (1) acquisition of a core set of automatic sight words and (2) ability to apply their word knowledge to unfamiliar words. While this may seem obvious, we are sometimes surprised by activities and worksheets where students don't get a lot of "bang for their buck"—where students don't get a lot of practice reading words. One of our criteria for choosing activities is their "practice-to-time" ratio. We have specifically chosen activities for the toolkits that provide a lot of practice in a relatively short amount of time. For example, in many of the activities, students are reading a word every 8–10 seconds, providing 40–60 practice "repetitions" per 10 minutes of instructional time. This result is in stark contrast to some phonics worksheets in which we have seen a child take 15 minutes to work with five words—a practice-to-time ratio of only one word every 3 minutes!

Writing Words

Practice reading words is not enough. Students also need practice writing words. Some might question the inclusion of activities that support writing and spelling in a book on word recognition. However, there is a strong correlation between reading and spelling. According to researcher Linnea Ehri (2000), spelling and reading are flip sides of the same instructional coin. Moreover, the Common Core State Standards (CCSS, 2010) lists the phonics and word recognition features at each grade level in terms of the benchmark spelling patterns. Indeed, the act of spelling words reinforces a child's knowledge of phonics and spelling patterns through a different avenue—encoding as opposed to decoding. This is like "cross training" in sports, where an athlete might swim one day, run another day, lift weights a third day, and practice yoga a fourth day. By including different types of workouts in a comprehensive fitness program, the athlete's overall fitness and health is improved. In the same way, the different types of activities in the instructional toolkit support the overall development of a child's word knowledge.

Manipulating Words

In addition to reading and writing words, children need practice manipulating word parts, the third part of our instructional toolkit. As children progress through the stages, these word parts will include phonemes, individual letters, spelling patterns, syllables, and eventually frequently occurring prefixes and suffixes. The manipulating words category includes two opposite but mutually supportive processes: (1) breaking whole words into parts and (2) building words from their parts, or "breaking words down" and "building words up" in our instructional shorthand.

Transferring Words

Finally, children need to be explicitly taught, supported, and coached in transferring word knowledge into contextual reading and writing—the ultimate goal of word knowledge instruction. Unfortunately, we have found that teaching for transfer is often the "missing link" in word knowledge instruction, as children are sometimes expected to apply phonics and spelling skills immediately and independently without being given sufficient opportunity, instruction, or support in how to do it. In the next section, we discuss why application is so difficult and introduce some guiding principles for teaching transfer that will set up the activities in the stage chapters to follow.

Transferring Word Knowledge to Context: The Missing Link in Word Study Instruction

We are often told by teachers, "My students get 100% correct on the weekly spelling tests, but they can't seem to transfer this spelling knowledge to their actual writing." Or, "My students are able to successfully read the words and patterns during a word study activity, but they aren't able to decode words with those exact same patterns during guided reading." It's no surprise that this is such a common concern, because the transfer of any new skill to independent practice is one of the most difficult and time-consuming parts of the learning process. Because transfer of word knowledge is our ultimate goal, let's spend some time discussing it. The following are four ideas to keep in mind about transfer to independent practice:

1. *Transfer to independent practice takes time, a lot of time.* Remember learning how to properly perform a jump shot in basketball, an arabesque in ballet, or learning your scales on the clarinet? How long did it take from the time you were first introduced to the skill until you could perform it accurately and automatically, without thinking, in a game or performance? A couple of seasons? A year or two? Literacy skills are no different in this regard. In our experience, it takes the *average* learner 1½–2 years to progress through the transitional stage. Do not be disheartened if your students are not consistently applying a new phonics skill the week after you introduce it—this is completely normal. And, just like your basketball coach or your ballet teacher, you will periodically need to cycle back and reteach certain skills that have not been mastered. This is part of the learning process and takes time.

2. *Transfer to independent practice takes practice, a lot of practice.* Time alone will not do it. It is also critical how we spend our instructional time on a daily basis. Research points to the large amounts of time our students should be actually reading and writing. If you feel your students aren't transferring their

skills to context, ask yourself the following question: "How much time do my students actually spend reading and writing in context every day, week, and month?" If we aren't giving them enough time to practice their skills in context, how will our students ever master these skills in context? To put some numbers on it, we ask ourselves the following questions:

> "Are my students actually reading (not doing worksheets or listening to the teacher talk) appropriate, engaging texts, and having rich discussions about these texts, for 90 minutes every day in school? 7½ hours every week?" (Allington, 2011)
>
> "Are my students actually writing (not doing worksheets) for real purposes for at least 30 minutes each day in school? 2½ hours per week?"

3. *Transfer to independent practice takes skilled coaching.* For most students, transferring a skill requires the assistance of someone who can skillfully guide them during the throes of actually trying out that skill in context—a coach. Remember the first time you tried out that jump shot in a scrimmage or that arabesque in a practice performance? It felt a lot different than doing it in isolation. Why? Because you were trying to put it into context and connect it to other parts of your game or performance. However, your coach was there to provide you those important tips and suggestions about how to integrate this new skill into the ongoing game. This skilled coaching during guided practice is essential to eventual independent practice.

4. *Transfer to independent practice requires* ***student*** *ownership of independent word learning strategies.* Part and parcel with the coaching process is our ultimate goal—independent strategy use by the students. We want our students to become reflective word learners who are equipped with a toolkit of strategies that they can independently use on their own when their coach is not next to them—while they are independently reading and writing.

To help you support your students' transfer of word knowledge, in each stage chapter you will find (1) activities that will provide your students with a lot of opportunities to apply their growing word knowledge skills in context and (2) word knowledge strategies you can teach your children so that they can successfully recognize and decode new words they encounter when reading independently.

Literacy Standards in the Common Core

How does a developmental model of word knowledge as outlined in this chapter fit with the grade-specific expectations and standards of your district or state? Because it has been so widely adopted by so many states, we focus our discussion in this section on the specific word recognition, phonics, and spelling standards

found in the CCSS; however, the larger points in this section also apply to district and state standards in general.

The CCSS is a set of Mathematics and English/Language Arts standards that, as of this writing, 45 states and the District of Columbia have adopted. The introduction to the CCSS places its standards in the context of real classrooms, stating: "No set of grade-specific standards can fully reflect the great variety in abilities, needs, learning rates, and achievement levels of students in any given classroom" (CCSS, 2010, p. 6). We believe it is important to note that the CCSS explicitly acknowledges the great variability in knowledge and skills of the children you work with every day in your classroom. The introduction to the "Reading: Foundational Skills" section of the CCSS goes on to address the instructional implications of this great variability, stating:

> These standards are directed toward fostering students' understanding and working knowledge of concepts of print, the alphabetic principle, and other basic conventions of the English writing system. These foundational skills are not an end in and of themselves; rather, they are necessary and important components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines. Instruction should be differentiated: good readers will need much less practice with these concepts than struggling readers will. The point is to teach students what they need to learn and not what they already know—to discern when particular children or activities warrant more or less attention. (p. 15)

Right at the outset of the section covering phonics and word recognition skills, the CCSS explicitly states that instruction should be *differentiated*, acknowledging the importance of teaching students *what they need to learn*. Therefore, a developmentally grounded, learner-centered approach like the one we describe in this text is in line with the intent of the CCSS (Gehsmann & Templeton, 2011/2012). Figure 1.12 identifies the foundational CCSS skills targeted at each stage of development.

For many students, the standards in the CCSS will align with their developmental levels. However, there will be discrepancies for more advanced students and for those who are struggling with literacy skills. For our more advanced students, we should not waste valuable instructional time teaching them what they already know, but should instead teach them what they are ready to learn next. For our students who are struggling with literacy skills, we will target their areas of need at their appropriate level of word knowledge and provide them the additional time and attention necessary to accelerate their development. When we teach developmentally appropriate words and skills to children who struggle, they are much more likely to (1) make gains in word knowledge and (2) maintain these gains over time than if we taught them at a level that is beyond their conceptual grasp (Morris, Blanton, Blanton, Nowacek, & Perney, 1995). We can help these students

	Print Concepts	Phonological Awareness	Phonics and Word Recognition	Spelling
Emergent	• Follow words from left to right, top to bottom, and page by page • Recognize that spoken words are represented in written language by specific sequences of letters • Understand that words are separated by spaces in print • Recognize and name all upper- and lowercase letters of the alphabet	• Recognize and produce rhyming words • Count, pronounce, blend, and segment syllables in spoken words • Blend and segment onsets and rimes of single-syllable spoken words • Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words	• Begin to demonstrate a basic knowledge of some one-to-one letter–sound correspondences	• Write a letter or letters for most consonant sounds (phonemes) • Spell simple words phonetically, drawing on knowledge of sound–letter relationships
Beginner		• Isolate and produce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant–vowel–consonant [CVC]) words • Distinguish long from short vowel sounds in spoken single-syllable words • Orally produce single-syllable words by blending sounds (phonemes), including consonant blends • Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words	• Read common high-frequency words by sight • Demonstrate a solid one-to-one letter–sound correspondence • Know the spelling–sound correspondences for common consonant digraphs • Decode regularly spelled one-syllable words • Read words with inflectional endings • Recognize and read grade-appropriate irregularly spelled words	• Spell simple words phonetically, drawing on knowledge of sound–letter relationships • Conventional spelling for words with common spelling patterns

		• Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes)		
Transitional			• Know final *-e* and common vowel team conventions for representing long vowel sounds • Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word • Decode two-syllable words following basic patterns by breaking the words into syllables • Read words with inflectional endings • Distinguish long and short vowels when reading regularly spelled one-syllable words • Know spelling–sound correspondences for additional common vowel terms • Decode regularly spelled two-syllable words with long vowels • Decode words with common prefixes and suffixes	• Generalize learned spelling patterns when writing words

FIGURE 1.12. CCSS foundational skills.

make progress toward the grade-level expectations more quickly and efficiently if we teach them where they are; put simply, "A step back is a step forward" when we teach in a developmentally responsive way (Bear et al., 2012).

In Chapters 3, 5, and 7 we identify how we target the specific word knowledge skills listed in the CCSS. For example, after the "Common Features of Study" section in Chapter 5, we list the CCSS word knowledge skills that are targeted in that stage of development. In addition, the activities in the chapter provide opportunities to practice these CCSS target skills.

Conclusion

Word recognition development is a crucial piece of the language arts curriculum of the primary grades. Quick and accurate word recognition is not only a hallmark of skilled readers, but it also influences reading comprehension. When a word is not automatically recognized, we decode and look for patterns. Our "reading mind" is a pattern detector; therefore, teaching common, high-utility patterns found in our language is an essential component of word recognition development. However, one size instruction does not fit all. We need an "instructional road map" to help us match our instruction to our students' developmental needs. To this end, in Chapter 2 we offer an assessment for you to identify your starting point on the "map," and the chapters that follow address needs of word knowledge within stages of development rather than grade levels. Every stage is presented with an "instructional toolkit" that will guide you through a series of activities that provide your students with ample opportunities to read, write, and manipulate words. Ultimately, the main goal is for your students to transfer these skills while reading and writing—your final destination on the "instructional road map."

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