CHAPTER 8

Best Practices for Developmental Word Study in Phonics, Vocabulary, and Spelling

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This chapter will:

- Introduce developmental word knowledge.
- Describe fundamentals of word study for all learners.
- Share word study activities by developmental stage.
- Demonstrate how word study is integrated instructionally in daily teaching routines.
- Illustrate how word study is organized to create a community of learners.

EVIDENCE-BASED BEST PRACTICES IN WORD STUDY INSTRUCTION

This chapter explores the many dimensions of word study and how to teach phonics, vocabulary, and spelling developmentally. It discusses the research base that underlies word study, and then offers a variety of effective practices and routines in the context of key ingredients of an effective word study program. You will see how word study is integrated in reading and writing instruction.

What Is Word Study?

Word study is an approach to teaching students developmentally and explicitly the underlying properties of how words are spelled and what

they mean. In this approach, phonics, vocabulary, and spelling are taught through active learning to enable students to explore deeply the relations among words, and understand the principles of how words are spelled (Templeton & Bear, 2018). Why word study? Reading and writing proficiency depend upon the accurate and rapid recognition and understanding of words in context, and the accurate and easy production of words in writing (Bear, Invernizzi, Templeton, & Johnston, 2016).

The developmental approach springs from the discovery that spelling provides a *window* into students' developing word knowledge (Henderson & Beers, 1980; Read, 1971). Students' correct spelling reveals what they know, and their misspellings show us the edges of their learning, what they are using and confusing, and their instructional levels (Invernizzi, Abouzeid, & Gill, 1994). Students' correct and incorrect spellings reflect their understanding of the principles underlying English orthography, their knowledge of how words are spelled, and the knowledge they use when they read and write (Invernizzi & Hayes, 2004, 2011).

Literacy Development and Word Study

Word study begins with assessing students' development. Five stages of spelling development serve as the basis for placing students' instructionally (Henderson, 1981, 1990); see Figure 8.1. Once students' stages are known, choosing what to teach to whom is fairly straightforward.

The five stages can each be divided into early, middle, and late gradations of the stage to make it easier to think about the continuum of development. Developmentally, given the gradual nature of learning, there are overlaps between stages. The three gradations add clarity in the discussion of what invariably are fuzzy boundaries between stages. For example, one teacher may describe a student as being in the *late letter name* stage and another may say that the learner is in the *early within word pattern* stage. These gradations also make it easier to think about groups for differentiated instruction when children at the end of one stage may be grouped with students at the beginning of the next stage. In the next section, each of the stages is discussed in more detail, and is accompanied by a presentation of effective word study practices. Below each heading, an approximate grade and reading lexile span for each stage is presented.
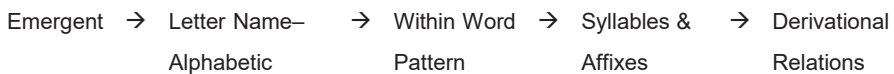
| Emergent | → | Letter Name–Alphabetic | → | Within Word Pattern | → | Syllables & Affixes | → | Derivational Relations |

FIGURE 8.1. Five stages of spelling in English.

Word Study with Emergent Bilinguals

Emergent bilinguals compare the orthographies and the oral languages they know with spelling and speaking in English. There are 60 million emergent bilinguals in the United States who are learning English, and there are countless students all around the world who are learning English as a foreign language. While nearly 80% of English learners in the United States speak Spanish, in some districts there are as many as eight dozen different languages. There is a wide range of learning experiences and achievement among students: some students know no other written language than English, which is a second oral language; other students start learning English early and are nearly equally proficient in two languages; and still other students speak and read with modest proficiency one language at home and are learning a second language at school.

Students use what they know in one orthography to learn the orthography in others, and instruction builds on this knowledge (San Francisco, Mo, Carlo, August, & Snow, 2013). Students benefit from instruction in which they examine contrasts between their first languages and English (Helman, Bear, Templeton, Invernizzi, & Johnston, 2012; Swan & Smith, 2001). Most programs with English learners provide instruction to clarify confusions in the contrasts between English and home languages. For example, Spanish speakers learning English may sort pictures and words that begin with the /sh/, /h/, and /s/ and /ch/, /c/, and /h/ sounds to clarify the differences between /ch/, a sound both in English and Spanish, and /sh/, a sound that is not a part of Spanish.

For emergent bilinguals, bilingual word study adds depth to their knowledge of written languages. There are many phonological and alphabetic contrasts that are relatively obvious, for example, the spelling substitution of *b* for *p* among Spanish-speaking students in the letter name stage (e.g., spelling *ship* as SIB). Emergent bilinguals who are unfamiliar with long vowel patterns benefit from sorting pictures of unfamiliar long vowel sounds, and then during the within word pattern, students study the patterns to spell long vowel words in English (e.g., patterns like CVCe in *name;* CVVC in *neat*; CVV in *may*) (Bear, Helman, & Woessner, 2009).

Spelling Assessments and Word Study

The goal of spelling assessments is to understand children's progress and then to plan appropriate instruction. Spelling inventories and spelling observation guides are formative assessments that chronicle changes in students' orthographic knowledge. Given the reciprocal relationship between spelling and reading (Ehri, 2014; Perfetti, 1997), spelling

analyses can also help teachers to think about assigning students to their guided reading groups.

There are several spelling inventories in common use, and all are easy to administer and score to determine a stage of development or grade level (Bear et al., 2016; Ganske, 2013; Invernizzi, Meier, & Juel, 2003; Morris, 2016; Schlagal, 1992). The reliability and validity of several inventories have been established for different stages and grades, for Spanish, and for academic vocabulary inventories (Ford, Invernizzi, & Huang, 2014; Helman et al., 2012; Sterbinsky, 2007; Townsend, Bear, Templeton, & Burton, 2016). The specific features the inventories measure reflect development and not an entire scope and sequence. Teachers keep both the spelling samples, feature-scoring guides, and writing samples to plan instruction and to share in parent–teacher meetings. In addition to these assessments at the beginning and end of the year, teachers conduct periodic assessments to examine more complete sets of features. These progress-monitoring assessments allow more flexibility in teaching and circumvent the dreadful, repetitive study of features and principles students have already studied and mastered. For example, if students can spell short vowel words with excellent accuracy, there is no need to assign short vowel word study. The inverse is also true; if students cannot spell half the short vowel words correctly, they may be just memorizing words without seeing how the short vowel patterns bring the words together.

To illustrate how spelling is used to assess word knowledge to guide word study, consider Marie's uncorrected, first-draft writing, and her spelling sample from the Elementary Spelling Inventory (Bear et al., 2016). During a tutoring session, Marie wrote a short piece about her hobby, cooking, and her interest in opening a restaurant. She has spelled many words correctly including several short vowel words and high-frequency words. Marie spelled several blends correctly and spelled the voiced *th* digraph in *there* (*THEAR*), and omitted the letter *h* in the voiceless *th* in *think* (TINK) and in the *wh* in *when* (WIN). Marie made similar errors in the spelling assessment that was administered at the beginning and end of tutoring. She made another *b–d* letter reversal and misspelled several short vowels. At times, Marie used her knowledge of the CVCe pattern to spell long vowels, as in PLASE for *place* and BRITE for *bright*. Several consonant digraphs and blends were spelled correctly while others were omitted. From what she is experimenting with in her misspellings, we have a good indication of what Marie knows about English orthography (see Figure 8.2).

As we explore teaching practices in the next section, you will see what stage of spelling development Marie is in, and the types of word study instruction that were a part of her tutoring. For now, know that Marie was a fourth grader at this time, and was a struggling reader and

(a)

My hode is cooking
becase I tink it is
Fun. Wen I grow up I want
To be a rest rot owner
and be the cook thear.
My restrot will be calbd
The Adams grill,
My last name is Adams.

(b)

Elementary Spelling Inventory

1.	bed	✓	14.	cares	carries
2.	shep	ship	15.	marct	marched
3.	win	when	16.	sawer	shower
4.	lump	✓	17.	boltel	bottle
5.	fult	float	18.	faver	favor
6.	tran	train	19.	ripen	✓
7.	plase	place	20.	seler	collar
8.	brive	drive	21.	pleser	pleasure
9.	brite	bright	22.	forcnit	fortunate
10.	shoping	shopping	23.	cofet	confident
11.	spole	spoil	24.	sivels	civilize
12.	srving	serving	25.	opeson	opposition
13.	cowd	chewed			

FIGURE 8.2. (a) An example of Marie's spelling and writing. (b) Marie's performance in the Elementary Spelling Inventory.

writer who had been receiving language instruction with a speech and language specialist.

WORD STUDY COMMUNITIES

To build a community of what some respectfully and good-naturedly call *word nerds,* teachers share their own interest in words, and encourage students to share interesting words and phrases. According to Pearson (2013), there are 10 indicators of a successful word study community. One of the key indicators is student talk about and reflection on word study. We all have seen how important student discussions are to teach comprehension, and the same is true for word study. I discuss briefly how to get students to talk about how talking builds communities of learners.

Student Talk Builds Community

Teachers guide word study lessons through a Socratic approach to teaching in which open-ended questions lead to an explicit examination of underlying spelling principles. We ask each other how words are related: "What do you notice about these words?"; "How do they look alike?"; "What meaning connections can we make?"

Open-ended questions are a tool for reflection and sharing in small groups. For example, we teach students to ask each other to reflect on their word pairs and categories when they play games and check each others' word sorts: "How are those words alike?"; "What do all of those words have in common?"; "What other words fit that pattern?" Through differentiated word study, classmates who are proximal partners developmentally, in a Vygotskian sense, sort and discuss words, and through these shared language experiences their thinking advances. Students examine phonics, spelling, and vocabulary by comparing, contrasting, and categorizing word features through hands-on activities, games, online dictionary searches, and repeated practice sorting.

Ten Indicators of Effective Word Study Instruction

In a study designed by Gehsmann, Millwood, and Bear (2012) to validate a word study observation tool and to examine effective practices and classrooms, the researchers found that 10 indicators described effective teaching: differentiated word study grouping; preparation and organization of materials; teacher talk that facilitates student reflection and clarifies concepts; substantial student-to-student talk; extension and transference to reading and writing; instructional routines for daily and

weekly activities; student reflection; notebook use; engagement; teacher knowledge and classroom management. This guide includes specific ways teachers encourage student reflection, and other indicators draw attention to instructional materials and routines. Literacy coaches and teachers review these indicators periodically and they concentrate on a few indicators at a time in their professional development communities. The best practices to follow are found in classrooms where these indicators have been observed, especially student talk and reflection.

BEST PRACTICES IN ACTION ACROSS THE STAGES

Word study can be differentiated by the five stages of spelling. In this section, the characteristics of each stage are introduced, accompanied by word study activities representative of that stage. First, consider how word study is introduced.

Lesson Plan Format for Explicit Word Study Instruction

Word study usually begins with a set of words or pictures that are organized in groups of four or five words or on pictures that illustrate particular concepts. Most word study activities focus on the concepts or orthographic principles for students' developmental levels, but sorts can be about anything you want students to compare and contrast, as in the *concept sort* activity described in the next section. Word study can be introduced in small-group and sometimes in whole-class instruction. A lesson that is explicit but also guides students to discover the categories may take 15 minutes on the first day. On subsequent days, the word study may be quite brief in independent, partner, and small-group activities assigned each day.

There are four basic steps to introduce word study explicitly in teacher-defined, "closed sorts" in which teachers show students how to sort the words or pictures by specific categories. Words are printed on approximately 1" by 2" rectangles on one page, and, usually, prior to meeting, students cut up the page to create a stack of 24 or so words or pictures. Demonstrations are conducted with paper sorts at a table, with broadcasts on screens and smart boards, and with enlarged cards at pocket charts with students manipulating the cards by the established categories.

Teacher Demonstrates

Let students know that this is how you want them to proceed on their own. Read the words aloud with students and discuss the meaning of a

few words the students may not know. Ask them to explain what the categories for sorting might be. Guide students to establish the categories, and together sort two or three examples for each category. Pass out the cards and ask students to say the word or picture aloud, and then say the key word of each column to compare. Students then place the word or picture into the correct category and explain their thinking: "Why did you place the word there?" In a beginning-sound picture sort, a student may explain, "I put the *candy* with *cow* because they sound alike at the beginning. They begin with the letter *c*." Be methodical in these comparisons, showing students how to say the words on the cards and compare them to key words, saying the words aloud, and explaining their thought processes with the stem: "I put these cards here because. . . . "

Students Sort and Check

Students sort with partners or individually. Students should sort accurately and correct errors when they read through the words in each category. If there are more than four words students cannot read, that sort may be too difficult and a step back to an easier sort is in order.

Students Reflect

This is a crucial aspect that is easy to pass over. After students have sorted and checked, they explain how words in each column are related. They provide reasons why they sorted the way they did.

Teacher Extends

Repeated practice is essential for students to glean the invariance within each category. Extend activities are introduced to students in small groups. To extend the examination of the categories, an array of activities like the ones described stage-by-stage below are assigned for seatwork, centers, or home. This introductory lesson is used in word study throughout the following stages.

Management schedules and individual contracts are two ways to set out 3-, 4-, or 5-day routines. Here is a 5-day word study schedule to adapt:

- Day 1: Demonstration activity with teacher, and cut and bag the new sort;
- Day 2: Practice sorting, write the sort in the word study notebook, and sort with a partner;
- Day 3: Sort three times, go on a word hunt, add new words found to your notebook, and play the game for the new sort;

- Day 4: Sort twice and explain the sort to a partner, write a reflection in your word study notebook, or do a blind sort with a partner- or student-led group;
- Day 5: Spelling assessment, introduce the game, check your word study notebook, and word-hunt with a partner.

This instructional pacing is adapted to students' learning, and is differentiated in ways presented in the following discussion of word study in the five stages.

Emergent Stage Word Study

Reading Stage: Emergent Reading; Grade Range, PreK–Middle K

There are six elements to consider during this stage. The skills that underlie these elements must come together before conventional literacy proceeds: (1) oral language, its concepts and vocabulary; (2) alphabet awareness; (3) phonological awareness; (4) letter–sound knowledge; (5) concepts about print; and (6) the concept of word in text (Johnston, Invernizzi, Helman, Bear, & Templeton, 2015). The first element, language, its concepts and vocabulary, is foundational and begins early, even in utero (Partanen et al., 2013). We know that children who by age 4 have been identified as having a significant language delay are likely to have reading difficulties later (Anthono et al., 2012; Snowling & Melby-Lervá, 2016). So, a rich language base is crucial to literacy, and literacy experiences must start early. Elements 2–5 are well known and their importance is well documented (Blachman, Schatschneider, Fletcher, Murray, Munger, & Vaughn, 2014).

TEACH CONCEPT OF WORD IN TEXT

The concept of word in text (COW-T), the sixth element, is less well known, and is assessed as the ability to point accurately to the words of a text students have memorized (Flanigan, 2007; Morris, Bloodgood, Lomax, & Perney 2003). Without a COW-T, students do not acquire sight words with any ease or make phonic generalizations beyond letter–sound correspondences (cf. Mesmer & Williams, 2015). Primary teachers have known about COW-T and it is even discussed in *To Kill a Mockingbird* (Lee, 1960, p. 23), when Scout observed that she "could not remember when the lines above Atticus's moving finger separated into words . . . " (Bear, 1991); we would say that indeed, when the lines "separated into words," Scout had acquired a beginning COW-T. Teaching COW-T is accomplished the same way it is assessed, by having students practice pointing to the words of a rhyme or student dictation that they have memorized.

START SOUND PLAY EARLY IN RHYTHMIC ACTIVITIES

A precursor of emerging phonological awareness and COW-T may be further up the language stream with children's awareness of oral, rhythmic structures. Before the segmentation of syllables into beginning and ending sounds, children acquire the prosodic understanding of the syllable within the phrase. In research with 4- to 7-year-olds, children delayed in language development improved in phonological awareness when they engaged in musical and particularly rhythmic activities (Bhide, Power, & Goswami, 2013; Forgeard, Schlaug, Norton, Rosam, Iyengar, & Winner, 2008; Goswami, Gerson, & Astruc, 2010; Moritz, Yampolsky, Papadelis, Thomson, & Wolf, 2013; Nelson, 2016).

INTRODUCE PICTURE SORTS OF BEGINNING CONSONANTS

Once students have a beginning COW-T, they start to sort pictures by beginning consonants. With frequently occurring consonants, students compare and contrast the sounds they hear and feel at the beginning when they name the pictures. We may start with *b, m, r,* and *s* as the first four beginning consonants we present. The sorts are introduced following the lesson plan format described above.

A common activity is for students to "Draw and Label" pictures of words with beginning consonants and then write the names of the pictures with as many letters of the words as they can (HRT for *heart*). "Letter Spin" is a popular matching activity for children to take home to practice letter recognition. Make a spinner divided into the number of letters being used. Students spin the letter and then find that letter chip, and they say the name of the letter. Play continues until all the letters are identified. Additional letters and spinners can be added.

Letter Name–Alphabetic Stage Word Study

Reading Stage: Beginning Reading, Lexile Range:
Up to 400; Grade Range: K–Middle 2

The name of this stage highlights two principles students use when they spell: (1) they use the names of the letters to spell (e.g., TIM for *time*) and (2) they use the alphabetic principle to make one-to-one correspondences between letters and sounds. Early in this stage, their invented spellings show that they are experimenting mostly with beginning consonant sounds, and then ending consonants, along with particularly prominent sounds in words like an *f* in the middle of *elephant*. Once students have learned the letter–sound correspondences of beginning and final

consonants, they move on to study short vowels starting with short vowel word families like the *-at* family (*cat, fat, bat, rat*).

To spell short vowels, students match articulatory gestures, how it feels in the mouth when they say the short vowels, to the letter names (Henderson & Beers, 1980; Read, 1971). For example, students in this stage may spell short *i* sounds with the letter name *e* as in *bee* because the letter name *e* feels closest to the way the short *i* is articulated. Beginning readers are word-by-word readers, they read disfluently, and they point to the words as they read. Their rates range from 40 to 80 words per minute.

SHORT VOWEL FAMILIES

Students study the onset (beginning consonant) and rime (the word family) of the basic word families for the short vowels (e.g., *-ad, -an, -at, -ed, -en, -et*). Sometimes instruction is too focused on families and students become inflexible and find it difficult to say that vowels across families are similar, for example, that *bat* and *mad* sound alike in the middle. Guide students to study short vowels across the short vowel families.

Game playing picks up during this stage. Students enjoy Tic-Tac-Toe or the longer version, Black-Out; Go Fish; and easy board games using the words and pictures they are studying.

PERSONAL READERS FOR REPEATED READING AND COLLECTING SIGHT WORDS

The personal reader is a place to store materials that early-and-middle-letter name stage students use in repeated reading (Bear et al., 2016). Repeated reading is a productive way to learn sight words including high-frequency sight words. Favorite and memorable poems, individual dictations, or paragraphs from memorable stories are reproduced in 26-point type and placed in students' personal readers. At this stage, to a degree, the more rereadings the students can get in, the more sight words they will learn. After reading their personal reader entries several times, students may review a sheet of possible sight words they can harvest, or they may underline sight words that they are confident that they "really know" when the words are printed out of context. Early letter name spellers collect a few words from what they reread repeatedly. Gradually, passages can be expanded to one or two paragraphs or stanzas.

Sight word acquisition from the personal reader selections is monitored closely at least until students have a sight word collection of approximately 100 words. The first 50–80 words are critical. While the task is time-intensive, teachers must keep track of how many sight words students

have learned. A page with two columns of numbered lines is placed in the personal reader for teachers to write the new sight words learned and for students to review. Teachers scan these pages regularly for record keeping.

THE CONSONANT–VOWEL–CONSONANT PATTERN

During the last third of this stage, students learn about the consonant–vowel–consonant (CVC) pattern, the primary pattern for short vowel patterns in English. If a word follows the CVC pattern, it probably has a short vowel. In parallel with the short vowels, students also examine consonant digraphs and blends. Once students see digraphs and blends as a unit, they understand that words like *spill, black,* and *thump* are CVC-pattern words. Within each short vowel, the vowels differ a bit, but together they are more alike compared to long vowels; for example, consider the differences among these short vowels and then check for the larger differences with the long vowels: *bad, bat, ban, ball* to *bade, bait, bane, bale.* The CVC pattern makes it easier to compare words across short vowels especially as *r*-controlled words come up for study (e.g., *far, her, fir, fur*). One of the last features students learn to spell in this stage is preconsonantal nasals as in *bump* and *stand.* Once students have learned these subtle and low-frequency preconsonantal nasals they are ready to study long vowel patterns.

Short vowels like short *i* and short *e* can be difficult for emergent bilinguals to discriminate (Helman, 2004). There are a number of charts that explicate the short vowel contrasts that may be confusing for students from a variety of languages (Helman et al., 2012). Consonant blends and digraphs can also confuse emergent bilinguals, especially when those sounds and letter pairs do not exist in their other languages. This discussion of patterns becomes a regular part of students' reflections; now, they look for how words sound in the middle, and how short vowels words look alike in terms of the CVC pattern.

Within Word Pattern Stage Word Study

Reading Stage: Transitional Reading, Lexile Range:
400–700; Grade Range: 1–Middle 4

The study of the other patterns in single-syllable words in English becomes the dominant emphasis during this stage. Early in this stage, instruction begins with the study of sound differences among the long and short vowels in picture sorts or word sorts with pictures at the top of each sorting column. After examining sound contrasts, students review the short

vowel, CVC pattern, and compare it to the long vowel consonant–vowel–consonant–little *e* (CVCe) pattern. The internal vowel pattern, CVVC, is examined next. This pattern is less frequent than the CVCe pattern, and involves a number of variations. The open-syllable CVV pattern comes next and the letter *y* reaches into complex vowels like */oi/* as in *boy* and *coil.* Some vowels are more difficult than others. The long *u,* as in *mule,* can be hard to discriminate. The complex vowel sounds and patterns have several variations, and are less frequent (e.g., *b<u>oo</u>k/f<u>oo</u>l, sc<u>ou</u>t/sc<u>ow</u>l*). This is also a time when students study more complex *r*-influenced vowels (e.g., *-ir, -ier -ire, -oar, -ore, -ure*).

This is a time when emergent bilinguals can learn about the sounds of novel vowels in English through picture sorts. Sorting pictures by sound gives students practice saying the sounds in a consistent fashion. Finally, at the end of this stage, students can spell nearly all single-syllable words correctly. This stages closes with the study of homophones and homographs. Word study with dictionaries becomes more important to understand multiple meanings (*steak/stake; root* (verb)*/root* (noun).

These transitional stage students make dramatic changes in their reading. At the beginning of this stage students read easy nonfiction texts, easy series like some in the *I Can Read* series published by HarperCollins, the *Nate the Great* series (Sharmat, 2006), and extended pattern books like *Down by the Bay* (Raffi, 1999). Students gradually read longer, more complex materials with embedded phrases and more polysyllabic words that include individual books and series like *Horrible Harry (*Kline, 2002), *Junie B. Jones* (Park, 2015), and *Tree House Mysteries* (Osborne, 2001), all well known at this level. What is fascinating is that silent reading rates begin to outstrip oral reading rates around 100 words per minute, and because it is more efficient, students become silent readers if accuracy is sufficient. In listening to oral reading, teachers notice the fluency increasing, but in the beginning and middle of the transitional stage there is a relative lack of expression, particularly of words that are in focus and could be emphasized prosodically to highlight intentions. Through activities like ReadersTheater, poetry readings, and chorales students acquire reading expression that helps them to read aloud effectively, and to think deeply to comprehend.

GAMES AND CHARTS

A wide variety of games are played during this stage. Students like to play Homophone Rummy, and the circular Race Track game with long vowel words and patterns. Students also like to work with partners to make charts of related words. For example, in Figure 8.3 we see students making a chart of long *o* and *e* words and short *e* words that students will later

FIGURE 8.3. Students create a word study chart for long and short vowels.

analyze by patterns. These charts are posted and students add words as they find them.

STRUGGLING READERS

Some students do not learn the patterns in this stage; they continue to misspell long and complex vowels; they read too slowly to read grade-level complex texts without support, and they find it difficult to keep up with the reading and writing demands. Their academic scores may flatten at a third- or fourth-grade level. Some struggling readers with strong verbal skills may be able to reach middle school grade-level comprehension, but by high school their lack of orthographic knowledge is likely to hold them back given the increasing demands to read a large amount of complex, domain-specific vocabulary.

Marie, whom we met earlier, was struggling as a reader in fourth grade. Her guided reading levels were in the G and H and 300–500 lexile ranges. While Marie knew how to spell many words correctly like *rest, lump, cook, want,* and *last*, she was learning how to spell words with short vowels (SHEP for *ship*, WIN for *when*), and she was also experimenting with spelling long vowels and diphthongs (PLASE for *place*, BRITE for *bright*, THEAR for *there*, COWED for *chewed*, SAWER for *shower*). To determine a stage, we could say that Marie is in the late letter name or the early part of the within word pattern stage. Instructionally, to strengthen her foundational knowledge and to have a common metalinguistic

language, the tutor and Marie began with a fast-paced examination of short vowel patterns, consonant blends and digraphs, and the CVC pattern. After six tutoring sessions Marie began to study the common long vowel patterns. She started with comparing short and long vowel sounds, and then studied the CVCe pattern. The chart presented in Figure 8.3 was developed by Marie and a partner and was posted for a time during her second semester of tutoring in the literacy center.

Syllables and Affixes Stage Word Study

Reading Stage: Intermediate Reading, Lexile Range: 500–1,000; Grade Range: 3–8

In this stage students study two-syllable words and the ways syllables combine. Morphology, the study of meaningful word parts, is the focus during this stage, beginning with the study of inflected morphology like the *–ed,* and *-ing* suffixes. From an abundance of research, it is clear that teaching morphology impacts literacy achievement (Carlisle, 2010; Goodwin, Huggins, Carlo, August, & Calderon, 2013). Students build on their knowledge of the CVC pattern and long vowel patterns to contrast the spelling patterns of short and long vowels and how adding suffixes impacts spelling. This includes the principles of *e*-drop + *-ing* for long vowels, and consonants doubling for short vowels *(save/saving* compared to *sit/sitting)*. Next, students examine closed (CVC) and open (CV) syllables as they learn to add various suffixes to words, for example, *-ing, -ly,* and *-ed*. In their study of open and closed syllables, students learn these patterns: VC/CV (*skipping*), V/CV (*reason*), VC/V (*river*), VCC/CV (*pumpkin*), VC/CCV (*pilgrim*), and VV (*riot*).

In these upper stages, students are maturing as readers. Independent reading is silent, and students learn study skills and how to adjust reading rates for different purposes. They become familiar with various genres, and learn how to read in various disciplines.

VOCABULARY NOTEBOOKS

Every student in this stage has a vocabulary notebook, and these notebooks can be arranged in a variety of ways. If the notebook is online, students have an area, like a folder, for different content areas. In their English language arts classes, students develop sections in their notebooks for the vocabulary from novels, for domain-specific words in their disciplinary studies, and an open or miscellaneous area for words that come up daily. Sometimes the vocabulary notebook includes *golden lines* students collect. These are quotes that they find in their reading or listening

that strike them as important, telling, eloquently phrased, or intriguing. Guided reading lessons often begin with students sharing a few vocabulary words and golden lines they found when they read; this puts students' talk at center stage, and helps to build a community of learners (Templeton et al., 2015).

ACADEMIC VOCABULARY: GENERAL AND DOMAIN SPECIFIC

In this and the next stage, students delve into academic vocabulary and multisyllabic word study in which they study general and domain specific academic vocabulary (see Chapter 5). General academic vocabulary occurs in all academic texts and across disciplines (Nagy & Townsend, 2012). The study of general vocabulary is enhanced when students study related words. Students' learning is also enhanced when they see multiple examples of the word parts. For example, in studying general vocabulary words like *significant,* several other related words can be presented (*sign, signal, significance*). These other words help to anchor the meaning for students. Another way to broaden exposure and increase context to learn general academic vocabulary is by discussing formulaic phrases or sequences (Schmitt, 2004). For example, in examining the word *though,* it will help to add phrases like *even though,* or to study polysemous words like *degree* in frequently occurring formulaic phrases as in *degree to which* or *fifth degree,* or *30 degrees Fahrenheit,* etc.

Games and word sorts continue to play a role in word study routines at these upper levels. Students continue to enjoy racetrack games and generating charts of related words, for example, words that begin with the same prefix, such as *prefabricated, pretend, preamble,* and *pretest.*

Derivational Relations Stage Word Study

Reading Stage: Advanced Reading, Lexile Range: 740–1,000; Grade Range: 5–12

Our vocabularies grow throughout our lifetimes. Students in this stage concentrate on word roots and their derivations, as well as less common affixes. This stage involves a number of exercises that show students that by looking at word parts they can identify word families, affixes, and roots, and in so doing, make *meaning connections*. With several examples of related words before them, students learn that they do not have to memorize each word, but that vocabulary study is generative (Templeton, 2015). When we teach one word we teach 10, and when we teach a root, learning is exponential. Figure 8.4 illustrates how with plenty of examples

the meaning of roots can be inferred, in this case, *liber*. We are always looking for related words to deepen learning.

MAKING THE MEANING CONNECTION

The links between meaning and spelling are important to uncover for vocabulary growth. By making meaning connections in spelling students find how literally thousands of words are related. They learn underlying principles that explain what happens to pronunciation and spelling when syllables, usually suffixes, are added to words: "Words similar in meaning can be similar in spelling despite changes in sound" (Templeton, 1992, p. 194). Specific principles include vowel alteration and reduction when vowels change as syllables are added to base words (*compose/composition*), and prefix assimilation which explains what happens when some prefixes connect to base words (e.g., the *in-,* meaning not, turns into *im-* before a *p* (*impossible, improbable;* similar changes are made for the prefixes *il-* and *ir-*). While there are many principles to explore, this is also a time for students to look carefully at the vocabulary they find while they read both in English language arts and in their other content areas. The next activity can be adapted across disciplines in the intermediate and secondary grades.

SIX-STEP, DEEP, AND GENERATIVE VOCABULARY STUDY

Students study several words deeply each week. This activity is introduced over several sessions by showing students how to choose words and the rest of the process as follows.
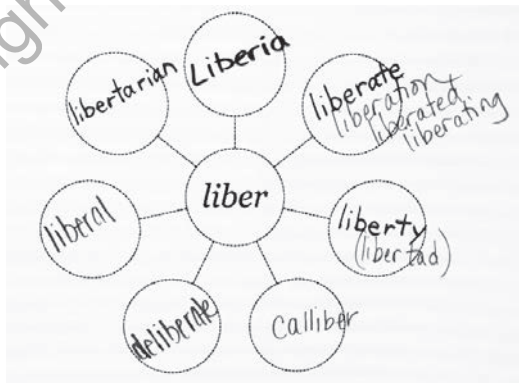

FIGURE 8.4. Root web for *liber*.

1. Find a word worth studying. Choose important and useful words.
2. Record the sentence or the most important parts of a long sentence.
3. Take apart. Break off the prefixes and suffixes and look for the base word or root. Make a list of related words by word parts: prefixes, base or root, and suffixes.
4. Make meaning connections. What meaning do these words or word parts (e.g., *aqua, aqua green, aquarium, Aquarius–water*) share?
5. Use references to find out more about the word parts and add information to your entry for this word.
6. Develop materials and a plan to display and share what you learned with classmates.

ETYMOLOGIES AND REFERENCES

Students in the upper levels of orthographic knowledge need dictionaries and word origin references to dig more deeply into word histories. After a few lessons in which students are shown how to read the abbreviations and some of the historical information, they are shown how to enter selected materials into their vocabulary notebooks (Templeton et al., 2015). Online references include all types of dictionaries in specific disciplines, dictionaries of etymologies, visual displays of related words, translation dictionaries, dictionaries for emergent bilinguals, and other online resources that expand each day. Here are some popular websites students refer to regularly: *dictionary.com, etymonline.com, myetymology. com, onelook.com, visualthesaurus.com, visuwords.com,* and *vocabulary.com.* We aim to have 10 copies of unabridged dictionaries and four copies of etymological reference books by Ayto (1990), Hoad (1986), and Shipley (2001) available in our English language arts classrooms. There are dozens of books that explore idioms, vocabulary in specific disciplines, and interesting phrases. Students use these resources to create word webs in which they explore the meaning connections among words that share the same root as they did in Figure 8.4.

REFLECTIONS AND FURTHER DIRECTIONS

Word study is an approach to teaching, and the practices and principles of word study like those described here can be used with existing materials and resources. There are four essential elements of this approach to word study: (1) the developmental sequence for differentiation; (2) integration of phonics, spelling, and vocabulary; (3) students' reflections and discussions; and 4) practice activities, sorts, and games. The impact of these

activities warrants further study through practice-embedded research in which teachers, researchers, and students investigate together (Snow, 2015). Like the comprehension focused Directed Reading–Thinking Activity (DRTA), which is responsive to students' predictions and reflections (Stauffer, 1975), word study takes students' developmental lead and puts them in a position to reflect on the sounds, meaning, and spellings of words (Zutell, 1996).

Word study is available digitally and online. How will digital experiences change instruction? Ideally, sorting words with partners will be just as useful online as it is with paper cards. Algorithms and artificial intelligence to examine eye movements, speech, and writing for students' accuracy, speed, and reflections can be used to adapt learning presentations to be more responsive instructionally as students move along the developmental continuum. Educators and researchers have found value in having students write words (Berninger & Wolf, 2009), and in word study, this is accomplished when students write words in lists by pattern. A digital stylus provides this experience, and with the right software, guidance in forming letters and words can be provided, and may be found to be as useful as writing on paper.

The goal of word study is to improve reading and writing; conceived in this way, spelling instruction is a more purposeful activity that is not just a rote memorization task (Graham & Santangelo, 2014; Massengill, 2006). The spelling activities in word study are dynamic and tailored to students' growth, and they impact students' reading, vocabulary, and conceptual knowledge (Conrad, 2008; Ehri, 2014; Rosenthal & Ehri, 2008; Treiman, 1998). For many teachers and parents, word study is a new way of thinking about spelling instruction and it will be important to share this larger goal, the developmental model, and the research to show how word study impacts literacy.

ENGAGEMENT ACTIVITIES

Explicit Word Study Lesson Plan

Refer to the four steps in the lesson described above to plan an explicit word study lesson. Form a small group of students in the same stage. Either choose an existing word list or sort, or develop a sort that includes three or four categories of words that follow different patterns. Include a few words that are "oddballs" that do not fit the established categories. Practice the demonstration and plan a few open-ended questions to ask, like "What did you notice about these words?" Plan a few ways like think–pair–share, or charting, for students to interact and discuss how words are related.

After the lesson, reflect on how it went. Was the sort at the students'

instructional level? Could they read the words, sort accurately, and talk about the categories? Were their reflections accurate? What extension activities will give students the daily practice they need?

Spelling and Reading Connections

Based on what you have learned about the stages of spelling and reading, see if you can observe a synchrony in students' development. You may want to use one of the spelling assessments discussed here or simply gather free, uncorrected writing samples and assign a stage of spelling based on the description of the stages. Compare students' reading and spelling achievement. See if you have developmental groups in the sample that would make it possible to provide word study and guided reading instruction together to small groups of students.

Examine anomalies by examining the relationships among reading accuracy, word recognition, and comprehension, when, for example, you have a good reader who is a poor speller. Sometimes there is a synchrony in word reading and spelling, but given students' strong language and thinking, their comprehension is more advanced than their word knowledge would predict.

Games

Develop three copies of one game that uses related words or pictures that match students' developmental levels. Refer to games mentioned in this chapter including Go Fish, Tick-Tac-Toe, the Racetrack game, and Concentration. Be sure to plan for students' reflections in which they explain how words are alike before completing a match. Ask students to give you feedback on the game: Was the game easy to follow? Was the game entertaining? What did they learn about words? What games might students want to make?

Academic Vocabulary

Understanding disciplinary vocabulary is essential to comprehension. To teach vocabulary in one unit of study, identify key vocabulary words that are important to comprehend a section in students' readings. Choose five domain-specific words and three general vocabulary words that are essential to understand the text. Prepare a list of related words for the vocabulary including generative vocabulary (*microbe: micro-, microbiotic, microcosm, micro-organism*), and phrases (*good microbes, environmental microbiology, cold-loving microbes, microbiologists, soil microbes*). Ask students to brainstorm related words and share from your list those they do not

mention. *Onelook.com, etymonline.com,* and *visuwords.com* are fine resources for this vocabulary study.

Have students work with you and partners to choose two of the five domain-specific and two of the general vocabulary words, and then have students make a chart of related vocabulary words for each word. Ask them to include phrases and drawings of the concept to accompany the chart. These charts can be posted around the room or shared online.

Consider using or adapting the six-step, deep, and generative vocabulary routine discussed above. In other lessons, show students how to use the upper-level resources discussed in the derivational relations stage.

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