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SIOP® FEATURE 8:

Links Explicitly Made between Past Learning and New Concepts

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Click on Videos, then search for "Teaching Science Vocabulary to English Learner Students" to see how an ESL teacher builds explicit links between science vocabulary words that have been introduced previously in science class and those same words that will be used in today's lesson. Note that classroom teachers can and should do this same type of review with key academic vocabulary and content concepts, so that English learners and other students can make connections between what has been taught previously and what is being taught and practiced today.

In addition to building background for students, it is also important for teachers to make explicit connections between new learning and the material, vocabulary, and concepts previously covered in class. Research clearly emphasizes that in order for learning to occur, new information must be integrated with what students have previously learned (Rumelhart, 1980). The teacher must build a bridge between previous lessons and concepts and the material in the current lesson. Many students do not automatically make such connections, and they benefit from having the teacher explicitly point out how past learning is related to the information at hand.

Explicit links between past learning and new learning can be made through a discussion—such as, "Who remembers the three reasons why_____? How do you think they might relate to the chapter we're reading today?"—or by reviewing graphic organizers, previously written class notes, or PowerPoint slides related to the topic. By preserving and referring to word banks, outlines, charts, maps, and graphic organizers, teachers have tools for helping students make critical connections. This is particularly important for English learners who receive so much input through a new language. Connecting new information to material students studied in other subjects is also beneficial. An explicit, brief review of a prior lesson focuses on key information and vocabulary they should remember.

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SIOP® FEATURE 9:

Key Vocabulary Emphasized (e.g., introduced, written, repeated, and highlighted for students to see)

Vocabulary development, critical for English learners, is strongly related to academic achievement (August & Shanahan, 2008; Biemiller, 2005; Hart & Risley, 2003; Lesaux, Kieffer, Faller, & Kelley, 2010; Manzo, Manzo, & Thomas, 2005; Zwiers, 2008). In addition, for over eighty years, we have known of the powerful relationship between vocabulary knowledge and comprehension (Baumann, 2005; Stahl & Nagy, 2006). According to Graves and Fitzgerald (2006, p. 122), systematic and comprehensive vocabulary instruction is necessary for English learners because:

- content area texts that students must read include very sophisticated vocabulary;
- reading performance tests given to English learners rely on wide-ranging vocabulary knowledge;
- English learners' vocabulary instruction must be accelerated because English learners are learning English later than their native-speaking peers;
- English learners' acquisition of deep understandings of word meaning is very challenging.

According to vocabulary expert Michael Graves (2011, p. 541), "A combination of rich and varied language experiences, . . ., teaching individual words, teaching word-learning strategies . . ., and fostering word consciousness . . . are needed in a comprehensive vocabulary program. With tens of thousands of words to learn (something like 40,000 by the time they complete eighth grade), children need many opportunities, many approaches, and lots of motivation and encouragement to build strong vocabularies."

Some studies suggest that a limited number of words should be taught per lesson or per week, and those words should be key words in the text (Beck, Perfetti, & McKeown, 1982). Others recommend teaching English learners the meanings of basic words, such as those that native English speakers know already (Diamond & Gutlohn, 2006; Stahl & Nagy, 2006). In SIOP lessons, teachers select words that are critical for understanding the text or material and provide a variety of ways for students to learn, remember, and use those words. In that way, students develop a core vocabulary over time (Blachowicz & Fisher, 2000; Graves & Fitzgrald, 2006).

Academic Vocabulary

Academic vocabulary is but one aspect of the spectrum of academic language, which includes the language for reading and writing, English grammar, prosody (such as intonation, inflection, and fluency), oral academic discourse, English syntax, and self-talk that promotes thinking and knowing. The terms *academic language* or *academic English* are being widely used to describe vocabulary and language use in U.S. classrooms. Zwiers (2008, p. 20) defines academic language as "the set of words, grammar, and organizational strategies used to describe complex ideas, higher-order thinking processes, and abstract concepts."

Many English learners who have been educated in their native countries come to school in the United States with well-developed vocabularies and an understanding of the academic language of various disciplines. For these students, it is important to help them make connections between what they know about the structure of their home language and what they're learning about English. For example, when appropriate, and depending on your background knowledge about English usage and structure, you can have informal conversations with students about syntax (the word order or the grammatical arrangement of words in a sentence) and pragmatics (how we use language in social, academic, and formal contexts). For beginning English learners, the instruction in English and academic language must be much more explicit and comprehensive. Usually this is provided by the ESL teacher, and it is supported by the elementary or secondary classroom teacher through SIOP lessons.

Academic vocabulary is one important facet of academic language, and it is of critical importance in content classrooms. Most likely, one of the first things you learned when you were preparing to become a teacher was that you needed to teach students key vocabulary words for your lesson topics. While these are certainly important words for English learners to know, there are additional words that they must master in order to succeed academically. The Common Core State Standards for vocabulary development suggest that students must

develop proficiency with subject specific as well as other types of academic vocabulary:

- Grades K–5: Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*).
- Grades 6–12: Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

For better understanding of the varied types of academic vocabulary that teachers need to focus on, especially for English learners, we have classified them into three groups. You probably recognize these three groups because they were introduced in Chapter 1 in the discussion of different types of language objectives. Each should be considered when planning SIOP lessons, when deciding on key vocabulary to teach, and when writing the accompanying language objectives.

1. **Content Vocabulary—Subject Specific and Technical Terms:** These are the key words and terms associated with a particular topic being taught (e.g., for a lesson on the American Revolutionary War: *Redcoats, democracy, Patriots, freedom of religion, Shot Heard 'Round the World, Paul Revere;* for an algebra lesson on graphing: *coordinate plane, x-axis, y-axis, slope, y-intercept;* for a life science lesson on plant life: *xylem, phloem, chlorophyll, stomata, respiration*). These words are found primarily in the informational and expository texts that students read, and frequently they are highlighted or in bold in the students' textbooks. In English language arts, they may be terms like *characterization, setting,* and *metaphor;* and while they are not in the fiction passages themselves, they are used to talk about the passages, author's craft, and so on. More important than listing words for students to learn is conveying the importance of knowing particular words in order to understand a given topic and determining whether a particular word represents a key concept that is being taught (Graves, 2011).
2. **General Academic Vocabulary—Cross-Curricular Terms/Process & Function:** These are academic words students must learn because they are used in all academic disciplines. Often, these words are not explicitly taught; yet, they are the ones that frequently trip up English learners and struggling readers. This category also includes words with multiple meanings. These words may have both a social language and an academic language use, such as *table* and *chair* versus *data table.* Or the word's meanings may differ according to academic subject, such as the distinction among legislative *power,* electrical *power,* and logarithmic *power.*
   a. *Cross-curricular terms:* Most of the general academic vocabulary terms can be used across the curriculum. They describe relationships (*friendship, conflict, encounter*) and actions (*describe, argue, measure*). They help illustrate information (*chart, model, structure, symbol*) and are used to speculate (*predict, infer*)

and conclude (*effect, result, conclusion, drawback*). They are expressions we usually only see in academic text (*In reference to . . ., The extent to which . . ., By virtue of . . .*), and terms we might use in casual conversation as well as academic discussions (*situation, circumstances, source, evidence, modify*).

b. *Language processes and functions:* A subset of the general academic terms indicates what we want to do with language—the kind of information we convey or receive and the tasks we engage in that require language to accomplish. Some English learners may know the terms in their home languages, but they may not know the English equivalents. Examples of some of these language process and function words that are common in classroom discourse are *discuss, skim, scan, question, argue, describe, compare, explain, list, debate, classify, support your answer, provide examples, summarize, outline, give an opinion,* and so forth. Additional examples are words that indicate transitions and connections between thoughts, such as *therefore, in conclusion, whereas, moreover,* and *furthermore,* and words that indicate sequence such as *first, then, next, finally,* and *at last.* This category also includes the verbs that students encounter in state tests and during other assessments such as *determine, identify, find,* and *contrast.*

3. **Word Parts: Roots and Affixes:** These include word parts that enable students to learn new vocabulary, primarily based upon English morphology. By grade 6, students have acquired each year approximately 800–1,200 words that include roots and affixes. These estimates are based upon *The Living Word Vocabulary* by Dale and O'Rourke (1981). There is no way that English learners can realistically learn all the words they need to know through instruction and memorization. Therefore, all teachers, elementary and secondary alike, must help students learn that many English words are formed with roots to which are attached prefixes and suffixes (affixes). For example, if a science teacher is teaching photosynthesis, he can help students learn the meaning of *photosynthesis* by introducing the meaning of the root, *photo-* (light). By comparing the words *photosynthesis, photocopy, photograph, photography, photoelectron, photo-finish,* and *photogenic,* students can see how these English words are related by both structure (prefix + root + suffix), and meaning. The root *photo* means "light," thus providing a clue to a word's meaning if it has this root. In fact, in English, words that are related by structure are usually also related by meaning (Bear, Invernizzi, Templeton, & Johnston, 2011; Helman, Bear, Templeton, & Invernizzi, 2011).

To assist with teaching English word structure, we include in Figure 3.2 some of the most common Latin roots that are found in thousands of English words. The fourteen roots with asterisks provide the meaning of over 100,000 words! By adding prefixes and suffixes to many of the words that are included with each root (e.g., *disrespect*ful, *extract*ion, *inform*ed), you can increase further the number of words on this list.

We urge caution about sharing this list, or others like it, with students. It is not included here as a list for students to memorize the roots, words, and their meanings. Instead, use what students already know about words: If they know how the words *import, export, portable, transport,* and *porter* are all related (they all have to do with carrying something), they can transfer that knowledge to learning the meanings of

FIGURE 3.2 Common Word Roots (Henry, 1990)

There are hundreds of Latin word roots that are used frequently with prefixes and suffixes. This is only a partial list of the most frequently used roots. The roots with asterisks (*) are the fourteen roots that provide clues to the meaning of over 100,000 words.

Aud: to hear
Auditory, audible, auditorium, aural, audio
Capit or capt: head, chief, leader
Capital, decapitate, capitol, capitalize, captain, caption, recapitulate
***Cept, cap, ciev, or ceit:** to take, to seize, to receive
Capable, capsule, captive, captor, capture, accept, deception, exception, intercept, conception, receptacle, susceptible, perceptive, precept, receive, receipt, deceive, deceit
Cred: to believe
Credit, credential, credible, incredible, creditable, accredit, credence, incredulity
Dic or dict: to say, tell
Dictate, dictator, predict, diction, dictation, contradict, contradictory, edict, indicate, indict, indictment
***Duc, duce, or duct:** to lead
Conduct, deduct, educate, induce, introduction, produce, reduce, reduction, reducible, production
***Fac, fact, fic, or fect:** to make
Fact, manufacture, faculty, facility, facile, facilitate, satisfaction, factor, beneficiary, amplification, certificate, confection, affect, defective, disinfect, efficacy, magnificent, personification, proficient, sufficient
***Fer:** to bring, bear, yield
Refer, reference, confer, conference, inference, suffer, transfer, defer, differ, difference, fertile, fertilize, fertilization, circumference, odoriferous
Flect or flex: to bend
Flex, flexible, flexibility, deflect, inflection, reflect, reflexive, reflective, reflector, circumflexion
Form: to shape
Reform, deform, inform, information, transform, conform, formula, formal, informal, formality, informative
Jac or jec or ject: to throw, lie
Dejected, rejection, adjective, conjecture, eject, injection, interjection, object, objective, project, rejection, adjacent
***Mit or miss:** to send
Mission, missile, missive, admit, admission, commit, dismissed, emissary, intermission, intermittent, remiss, remit, remittance, submit, submission, transmit, transmission, emit, permit, permission, permissive
Ped or pod: foot (ped is Latin; pod is Greek)
Pedestrian, pedestal, podium, pedometer, centipede, pedal, expedition, impede, podiatry, podiatrist
Pel or puls: to drive, push, throw
Impulse, compel, compulsion, expel, propel, dispel, impulsive, pulsate, compulsive, repel, repellent
Pend or pens: to hang
Pendant, suspend, suspense, pendulum, pending, dependent, perpendicular, appendix
***Plic or ply:** to fold
Implicit, implicitness, explicit, explicate, implication, replicate, complicated, application, ply, apply, imply, reply
Port: to carry
Import, export, portable, transport, porter, deport, report, support, portal, important, importantly, unimportant
***Pos, pon, or pose:** to put, place, set
Compose, composite, dispose, disposable, oppose, component, postpone, proponent, deposit, compound, depose, proposal, preposition, disposal, exposition, exponent, expose, impose, suppose, opponent, proposition, position
Rupt: to break
Rupture, disrupt, disruptive, disruption, abruptly, bankrupt, corruption, erupted, eruption, interrupt
***Scrib or script:** to write
Scribble, ascribe, describe, description, conscript, inscribe, inscription, superscription, prescribe, prescriptive, script, scripture, transcribe, transcript, transcription
***Spec or spect:** to see, watch, observe
Spectator, spectacular, spectacle, respect, spectrum, specter, disrespect, inspect, inspector, retrospective, species, special, specimen
***Sist, sta, or stat:** to stand, endure
Persist, consistent, consist, desist, assist, resist, assistant, insist, stamina, constant, circumstance, distant, obstacle, standard, substance
Stru or struct: to build
Structure, structural, construct, construction, destructive, reconstruct, instruct, instructor, obstruct, instrument, construe
***Ten, tent, or tain:** to have, hold
Tenant, tenable, tenacity, tenacious, contents, contended, discontented, contentment, intent, maintain, retain, retentive

(continued)

FIGURE 3.2 *(Continued)*

***Tend or tens or tent:** to stretch, strain
Intend, intention, intently, extended, tense, intense, pretense, tension, intensity, attention, inattention, unintentionally, distend, detention, détente
Tract: to draw or pull
Tractor, attract, abstract, contract, retract, contractual, detract, distract, extract, subtract, tractable, intractable, traction, protract, protractor
Vert or vers: to turn
Convert, convertible, revert, reversible, extrovert, introvert, divert, avert, aversion, aversive, vertigo
Vis: to see
Visual, visa, visor, vision, visible, visitor, visitation, visualize, invisible, evident, provide, providence

Greek Combining Forms
Beginning: *auto, phono, photo, biblio, hydro, hyper, hypo, tele, chrom, arch, phys, psych, micro, peri, bi, semi, hemi, mono, metro, demo*
Ending: **graph, gram, meter, *ology, sphere, scope, crat, cracy, polis*
Examples: *photograph, microscope, hemisphere, telegram, chronometer, physiology, metropolis, perimeter, archeology, bibliography, democracy, autocrat*

important (carrying value) and *unimportant* (not carrying value). These roots and words should be used for your reference and for helping students understand how roots and affixes work in the English language. (For more information about word parts—morphemes—and English structure, see Bear, Helman, Invernizzi, Templeton, & Johnston, 2011; Bear, Invernizzi, Templeton, & Johnson, 2011; Helman, et al., 2011).

Academic Word List

Another helpful source of words for teachers of English learners, especially those in middle and high school, is the Academic Word List, developed by Averil Coxhead (2000) at Victoria University, Wellington, New Zealand. The list, originally developed for first-year university students, includes 570 word families (or "headwords") contained in four disciplines (arts, commerce, law, and science). These words also reinforce for English learners the spelling/meaning connection in thousands of English words, and provide useful information about which words provide the best academic return for students. The complete list of 570 headwords and approximately 3,000 words can be found (at the time of this writing) at *www.uefap.com/vocab/select/awl.htm*. There are also many other Web sites related to the Academic Word List that you can find using a search engine.

One, Two, and Three Tier Words

Another source of words for teaching vocabulary is found in a scheme designed by Beck, McKeown, and Kucan (2002). This scheme is followed in many schools and it includes three tiers of words as described below:

1. Tier One words are common words, such as simple nouns, verbs, high-frequency words, and sight words. Most students know these words conversationally,

and usually, it isn't necessary to focus on them instructionally, except for young children who are learning to read. While Beck, McKeown, and Kucan (2002) recommend teachers focus primarily on Tier Two words in their vocabulary lessons, we add a caveat. Teachers of English learners need to be careful about assuming that these students know the Tier One words. Newcomers and emergent speakers, especially, may need explicit instruction and practice with Tier One words. Depending on their ages, they may know the words in their native language, but not their English counterparts.

2. Tier Two words are similar to many of the words in the General Academic Vocabulary—Cross Curricular Terms/Process & Function category described on p. 70. They are commonly found in school texts but not in general conversation. Stahl and Nagy (2006) refer to them as "Goldilocks words—words that are not too difficult, not too easy, but just right" (p. 133). These are also considered to be the words students need to know for comprehending school texts and achieving academically, and they should be taught explicitly to English learners and to most native-speaking students.
3. Tier Three words are typically uncommon, found rarely in school texts except in particular contexts, such as a discussion of a specific content-related topic. While these words may be interesting, fun to know, and unique to a particular topic, it is recommended that teachers not spend a great deal of time on them. When a Tier Three word is included only once or twice in a story, for example, it's fine to mention the word in its particular context, but then move on.

For more information about Tier One, Tier Two, and Tier Three words, see the book by Beck, McKeown, and Kucan (2002), that includes word lists and a complete discussion of each of the tiers.

Word Consciousness

With all of this serious discussion about words and vocabulary development, it's very important to remember that learning about words and playing with words can be great fun, for both English learners and native speakers alike. Stahl and Nagy (2006) discuss the importance of developing students' *word consciousness,* which "is a phrase used to refer to the interest in and awareness of words that should be part of vocabulary instruction. In other words, motivation plays an important role in vocabulary learning, as it does in any other kind of learning" (p. 137). Activities in which students manipulate words, sort words, laugh and giggle about funny words, and choose words they want to know about are as important for vocabulary growth as the more scholarly aspects of vocabulary teaching and word learning. For example, see if you don't chuckle or eye-roll with the following (Stahl & Nagy, 2006, pp. 147–148):

- A bicycle can't stand alone because it is two-tired.
- Time flies like an arrow. Fruit flies like a banana.

- A chicken crossing the road is poultry in motion.
- Those who get too big for their britches will be exposed in the end.

And how about some of these homographs?

- We polish the Polish furniture.
- He could lead if he would get the lead out.
- The present is a good time to present the present.
- I did not object to the object.

Teaching Academic Vocabulary

In a synthesis of twenty years of research on vocabulary instruction, Blachowicz and Fisher (2000) determined four main principles that should guide instruction.

1. *Students should be active in developing their understanding of words and ways to learn them.* Such ways include use of semantic mapping, word sorts (see Figures 3.3 and 3.4), Four Corners Vocabulary Charts (see Figure 3.5), Concept Definition Maps (see Figure 3.6), and developing strategies for independent word learning.
2. *Students should personalize word learning* through such practices as Vocabulary Self-Collection Strategy (VSS) (Ruddell, 2005) (see Teaching Ideas section, p. 80), mnemonic strategies, and personal dictionaries.
3. *Students should be immersed in words in rich language environments that focus on words and draw students' attention to the learning of words.* Word walls and comparing/contrasting words with the same morphemic element (e.g., *photograph, photosynthesis, photogenic*) aid students in recognizing and using the words around them.
4. *Students should build on multiple sources of information to learn words through repeated exposures.* Letting students see and hear new words more than once and drawing on multiple sources of meaning are important for vocabulary development. Students should also use the words in speech and writing.

Following a three-year research study, Manyak (2010, pp. 143, 144) developed a framework of vocabulary instruction for English learners and native English speakers in high-poverty schools. The framework includes four components: (1) providing rich and varied language experiences; (2) teaching individual words; (3) teaching word-learning strategies; and (4) developing students' word consciousness. The fast-paced, weekly instructional plan includes:

1. Providing student-friendly definitions (e.g., "*Indifferent* means not caring or not being interested in something.")
2. Providing examples of use (e.g., "Juan was *indifferent* about going with his friends to the movie because it didn't sound interesting to him.")

3. Prompting students to create examples using the word (e.g., "What is something about which you feel *indifferent*?")

Clearly, there is little benefit to selecting twenty-five to thirty isolated vocabulary terms and asking English learners (and other students) to copy them from the board and look up their definitions in the dictionary (Allen, 2007; Fisher & Frey, 2008b). Many of the words in the definitions are also unfamiliar to these students, rendering the activity meaningless. Although using the dictionary is an important school skill to learn, the task must fit the students' learning and language needs. The number of terms should be tailored to the students' English and literacy levels, and they should be presented in context, not in isolation. Picture dictionaries (definitions are enhanced with pictorial representations) are excellent resources for contextualizing terms. For students with minimal literacy skills, using the dictionary to find words can serve to reinforce the concept of alphabetizing, and it familiarizes them with the parts of a dictionary; however, defining words should not be the only activity used. Effective SIOP teachers support the understanding of dictionary definitions so that the task is meaningful for students. In fact, many effective teachers introduce dictionary skills to students by using words that are already familiar to them.

Teaching Ideas for Building Background

Additional activities that activate prior knowledge, build students' background knowledge, and develop academic vocabulary include the following:

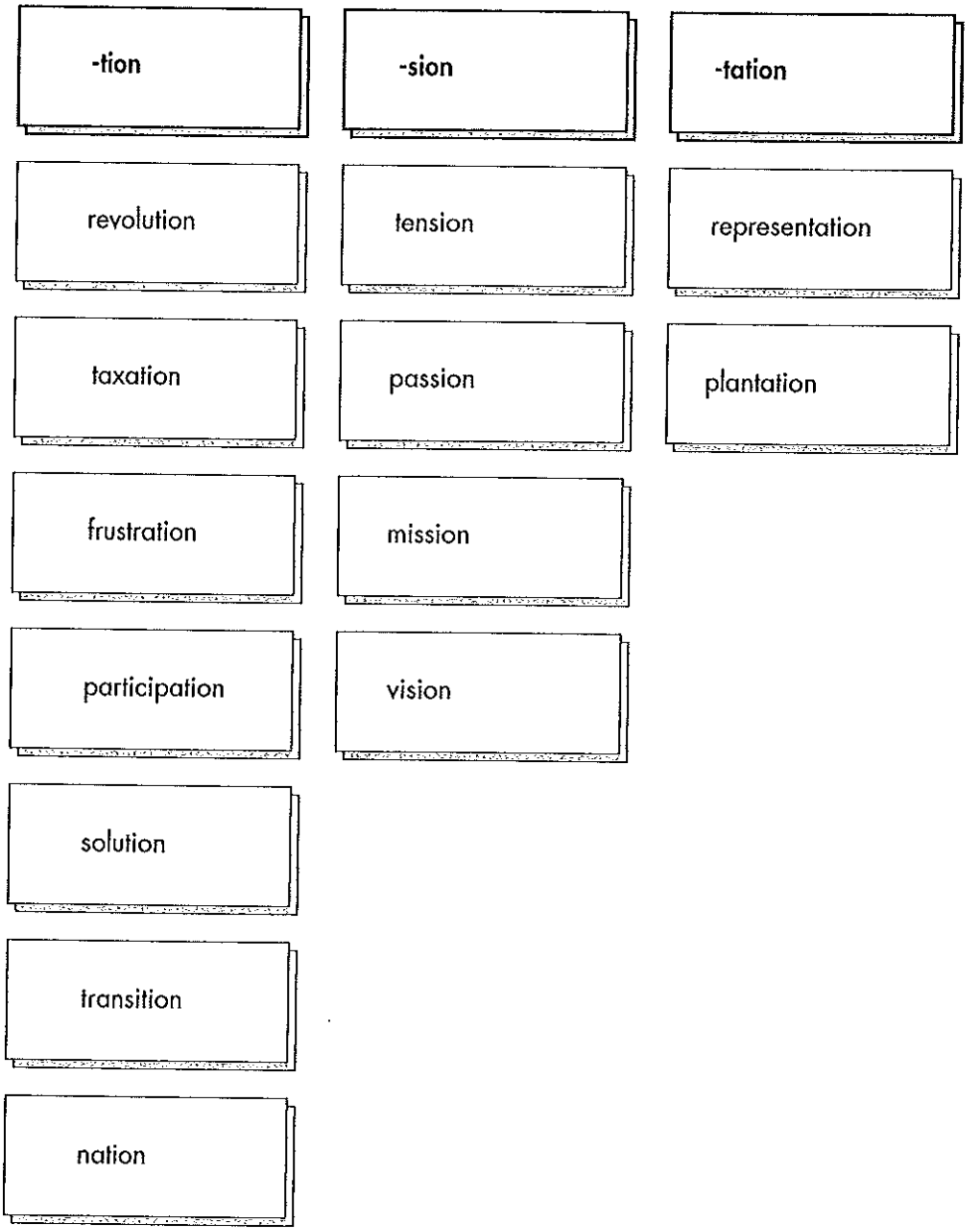
- **Read aloud** a story, article, play, or picture book about the topic to build students' background knowledge, or view a DVD or Internet video on the topic.
- **Digital Jumpstarts (DJs)** (Rance-Roney, 2010). Elsewhere in this book (see Chapter 2: Lesson Preparation), we have referred to the powerful effect of Jumpstarting (also referred to as "front-loading"), where teachers pre-teach a small group of students the concepts, vocabulary, and processes prior to beginning a lesson for the whole class. The purpose is to build background and vocabulary knowledge for students who need extra time and support. Rance-Roney (2010) points out that as effective as Jumpstarting is, it can cause some management issues for those students who are not working with the teacher in the Jumpstart group. Therefore, she created "digital jumpstarts" that allow students who need the extra time and support to work on a computer to play and replay a reading preview, practice new vocabulary words, and so forth. The DJs can be put on DVDs for home viewing or they can be uploaded to free-access Web sites, such as YouTube. "The unique aspect that sets DJs apart from other reading scaffolds is that with DJs, all of the learning components needed to scaffold reading (i.e., vocabulary, cultural sounds and images, the voice of the teacher (pronunciation and prosody), background information, and schema) are integrated in one product" (Rance-Roney, 2010, p. 388). In the article, you will find several examples of DJs created by teachers of English learners.

- **The Insert Method** (Vogt & Echevarría, 2008). This activity is appropriate for grades 3–12 and all subject areas. First, give each student a copy of a nonfiction article on the topic you're teaching. In partners, students read the article. While reading, they insert the following codes directly into the text:
  - A check mark (✓) indicates a concept or fact that is already known by the students.
  - A question mark (?) indicates a concept or fact that is confusing or not understood.
  - An exclamation mark (!) indicates something that is unusual or surprising.
  - A plus sign (+) indicates an idea or concept that is new to the reader.

When the partners finish reading and marking the text, they share their markings with another pair of students. If any misconceptions or misunderstandings are cleared up, then the question mark is replaced with an asterisk (*). When groups finish working, the whole class discusses what they have read and learned with the teacher.

- **Pretest with a Partner.** This activity is helpful for students in grades 2–12 and is appropriate for any subject area. The purpose of Pretest with a Partner is to allow English learners the opportunity at the beginning of a lesson or unit to preview the concepts and vocabulary that will be assessed at the conclusion of the lesson or unit. Distribute one pretest and pencil to each pair of students. The pretest should be similar or identical to the posttest that will be administered later. The partners pass the pretest and pencil back and forth between one another. They read a question aloud, discuss possible answers, come to consensus, and write an answer on the pretest. This activity provides an opportunity for students to activate prior knowledge and share background information, while the teacher circulates to assess what students know, recording gaps and misinformation.
- **Word Clouds** (Dalton & Grisham, 2011, p. 308). To create a word cloud based on the frequency of words in a text, create a template on Wordle (© Jonathan Feinburg; *www.wordle.net*). Select some interesting text that your students have read, and copy and paste it into the text box on the Web site. You can manipulate the display by selecting a background color, layout, and font. Word clouds enable students to see key words, create headings, and provide prompts for discussion. When students create their own designs, they integrate visual and verbal information, while practicing important digital skills. Like a similar free Web site where students can develop word clouds (*www.wordsift.com*), Wordle provides support in several different languages, which can be especially helpful for English learners. For an example of a word cloud created on Wordle, see Mrs. Ornelas's lesson in this chapter (Figure 3.8). Note that in the word cloud, the larger the word, the more frequently it has appeared in the text selected for the cloud.
- **Word Sorts** (Bear et. al, 2011; Helman et. al, 2011). During a Word Sort, students categorize previously introduced words or phrases into groups predetermined by the teacher. Words or phrases can be typed on a sheet of paper (46-point type on the computer works well), or they can be duplicated from masters in the book by

FIGURE 3.3 Word Sorts: American Revolution—Example 1



Bear et al. (2011) or Helman et. al (2011). The teacher or students cut the paper into word strips and then sort the words according to meaning, similarities in structure (e.g., words ending in *-tion, -sion,* or *-tation*), derivations, or sounds.

For example, words related to the American Revolution are listed in mixed order on a sheet of paper: *revolution, tension, frustration, taxation, representation, vision, plantation, mission, participation, solution, passion, transition, nation,* and so on. After you discuss the meanings of the words, have students cut out each of the words and sort them according to spelling pattern (see Figure 3.3). The objectives here would be twofold: to introduce words related to content concepts and to reinforce spellings and word structure.

FIGURE 3.4 Word Sorts: American Revolution—Example 2

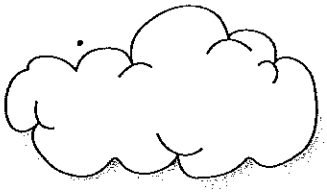
People	Weapons	Issues
George Washington	muskets	right to bear arms
Thomas Jefferson	rifles	taxation
Thomas Paine	knives	self-governance
King George	bayonets	freedom of religion
Paul Revere	cannons	democracy

Another example of a Word Sort for the American Revolution might involve words and phrases related to content concepts such as *right to bear arms, muskets, George Washington, rifles, Thomas Jefferson, democracy, Thomas Paine, knives, taxation, King George, bayonets, freedom of religion, Paul Revere, self-governance, cannons.* After students cut apart the words and phrases, they sort them into groups and identify an appropriate label for each (e.g., People, Weapons, Issues) (see Figure 3.4).

- **Contextualizing Key Vocabulary.** SIOP teachers peruse the material to be learned and select several key terms that are critical to understanding the lesson's most important concepts. The teacher introduces the terms at the outset of the lesson, systematically defining or demonstrating each and showing how that term is used within the context of the lesson. Experienced SIOP teachers know that having students understand the meaning of several key terms completely is more effective than having a cursory understanding of a dozen terms. One way of contextualizing words is to read with students in small groups and, as they come across a term they do not understand, pause and explain it to them, using as many examples, synonyms, or cognates as necessary to convey the meaning. Another way is to embed a definition within a sentence when introducing and reviewing a new word or concept, e.g., *The migratory birds, those who flew in a group from one place to another in autumn, stayed near our lake for several days before flying on.*

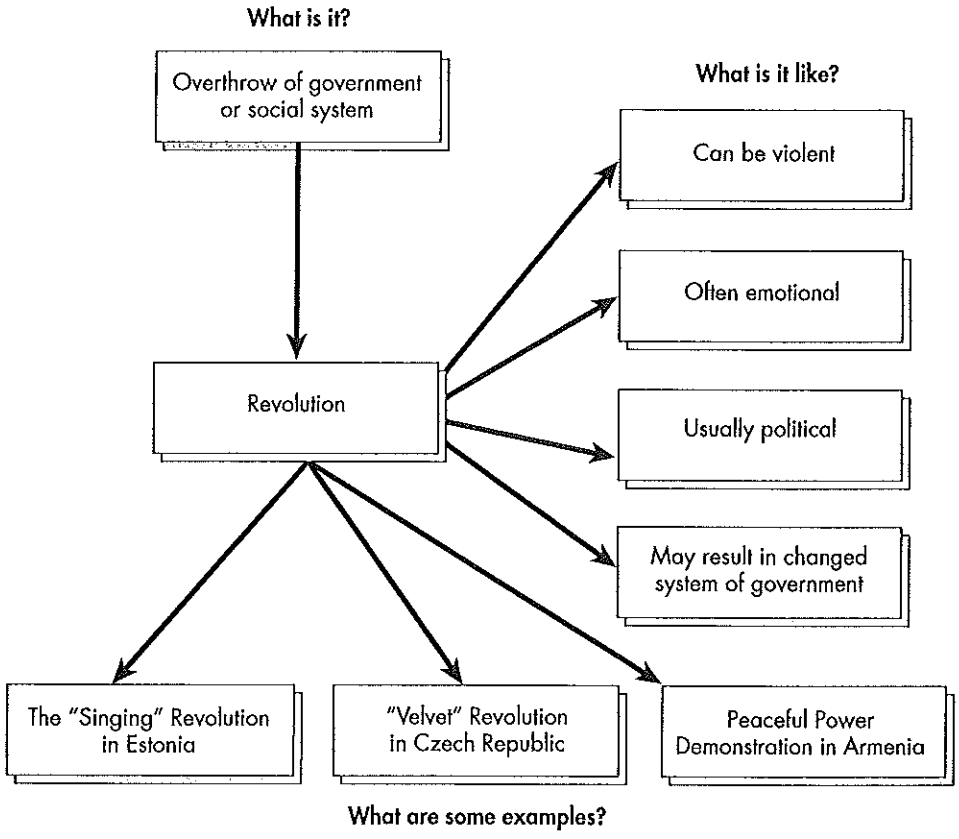
- **Vocabulary Self-Collection Strategy (VSS)** (Ruddell, 2007). Following the reading of a content text, students self-select several words that are essential to understanding content concepts. Words may be selected by individuals, partners, or small groups, and they are eventually shared and discussed by the entire class. The teacher and students mutually agree on a class list of vocabulary self-collection words for a particular lesson or unit, and these words are reviewed and studied throughout. They also may be entered into a word study notebook, and students may be asked to demonstrate their knowledge of these words through written or oral activities. Ruddell (2007) has found that when students are shown how to identify key content vocabulary, they become adept at selecting and learning words they need to know, and, given opportunities to practice VSS, comprehension of the text improves (Ruddell & Shearer, 2002; Shearer, Ruddell, & Vogt, 2001; Stahl & Nagy, 2006). The VSS is an effective method for teaching and reviewing content vocabulary because students learn to trust their own judgments about which content words are the most important to learn. This approach is most appropriate for students who are high-intermediate and advanced English learners, and for elementary, middle, and high school students.
- **Word Wall.** During a lesson, key vocabulary is reviewed with a word wall where relevant content vocabulary words are listed alphabetically, usually on a large poster, sheet of butcher paper, or pocket chart (Cunningham, 2004). Originally designed as a method for teaching and reinforcing sight words for emergent readers, word walls are also effective for displaying content words related to a particular unit or theme. The words are revisited frequently throughout the lesson or unit, and students are encouraged to use them in their writing and discussions. Cunningham (2004) recommends that teachers judiciously select words for a word wall and that the number be limited to those of greatest importance. We would add that teachers should resist the temptation to have multiple word walls in one classroom because the walls quickly become cluttered with words that are difficult to sort through, especially for ELs. One word wall, carefully maintained and changed as needed, is what we recommend.
- **Four Corners Vocabulary Charts** (Vogt & Echevarría, 2008). These charts provide more context and "clues" than typical word walls, because they include an illustration, definition, and sentence for each vocabulary word (see Figure 3.5). For academic words that are challenging or impossible to illustrate (e.g., *discuss* or *summarize*), simply take a photo of your students during a discussion or when summarizing, and insert the photos as a reminder in the illustration box.
- **Concept Definition Map.** The Concept Definition Map is a great way to learn and remember content vocabulary and concepts (Buehl, 2001). Even though it is a simple graphic, it can be used to discuss complex concepts. For example, students are comparing how several of the countries in the former Soviet Union earned their independence through revolution. To clarify the meaning of *revolution,* the class completed a Concept Definition Map, as shown in Figure 3.6. The Concept Definition Map also provides an excellent prewriting activity for summarizing. Students can begin the summarizing process by organizing content concepts in the graphic organizer. Then sentences can be created from the information in the Concept Definition Map and subsequently written into paragraph form.

FIGURE 3.5 Four Corners Vocabulary Chart

Illustration (1)	Sentence (2)
	The fluffiest clouds, that look like cotton, are called *cumulus* clouds.
Definition (3)	**Word (4)**
A white billowy cloud type with dark, flat base (from the Latin *cumulus*, meaning a "heap.")	cumulus

Vogt & Echevarría, 2008, pp. 40–41

FIGURE 3.6 Concept Definition Map



- **Cloze Sentences.** Cloze sentences can be used to teach and review content vocabulary. Students read a sentence that has strong contextual support for the vocabulary word that has been omitted from the sentence. Once the meaning of the word is determined and possible replacement words are brainstormed, the teacher (or a student) provides the correct word. For example, "During a_____, which can be violent or peaceful, a group of people tries to overthrow an existing government or social system." *(revolution)*
- **Word Generation.** This activity helps EL students and others learn and/or review new content vocabulary through analogy. For example, write *-port* on the board. Invite students to brainstorm all the words they can think of that contain *port.* Examples might include *report, import, export, important, portfolio, Port-a-Potty, Portland, deport, transport, transportation, support, airport,* and so on. Analyze the meaning of each brainstormed word and ask students what they think the root *port* means ("to carry"). Then go back and revisit each word to see if the definition "to carry" has something to do with the word's meaning. Note that we did not define *port* first; rather, we recommend that students generalize meanings of content words from words that they already know that contain the same syllable or word part. Many of the roots found in Figure 3.2 can be used for Word Generation.
- **Word Study Books.** A Word Study Book is a student-made personal notebook containing frequently used words and concepts. Bear et al. (2011) recommend that the Word Study Book be organized by English language structure, such as listing together all the words studied so far that end in *-tion, -sion,* and *-tation.* We support this notion and believe that Word Study Books can also be used for content study where words are grouped by meaning.
- **Vocabulary Games.** Playing games like Pictionary and Scrabble can help students recall vocabulary terms. Word searches for beginning students and crossword puzzles for more proficient students are additional vocabulary development tools. Software programs are available for teachers or students to create crossword puzzles.
- **Self-Assessment of Levels of Word Knowledge** (Diamond & Gutlohn, 2006, p. 5). As English learners are acquiring vocabulary, it may be helpful for them to self-assess their knowledge of new words. Dale (1965) described four levels of word knowledge that can be used to describe the extent of a person's understanding of words:

  1. I've never heard or seen the word before.
  2. I've seen or heard the word before, but I don't know what it means.
  3. I vaguely know the meaning of the word, and I can associate it with a concept or context.
  4. I know the word well.

With effective vocabulary instruction and repeated exposures to unfamiliar vocabulary, students' knowledge of the words increases and they move up the levels from 1 to 4. When teachers introduce the four Levels of Word Knowledge to students, they can self-assess their word knowledge as words are introduced and studied.