



Table 1

Illustration of a Word Family with Anglo-Saxon Origins: *Help*

Inflected Endings	Affixes	Compound Words	Idioms and/or Common Phrases
helps helping helped	helper(s) helpful/helpfully unhelpful/unhelpfully helpless/helplessly/helplessness	helpmate(s) helpmeet(s)	give (someone) a hand need a hand lend a hand help out help yourself help yourself to I can't help it Help!

lated system of concepts to understand (Nagy, Anderson & Herman, 1987). For example, to understand *electrochemical energy* requires that students understand terms such as chemical energy, conversion, and electric energy.

Most individuals could engage in hundreds of conversations and watch numerous television programs or movies without hearing words such as *nonplussed* or *electrochemical energy*. Both types of unique words, whether the synonyms for known concepts in stories or the new concepts in informational texts, are usually acquired through academic tasks that include reading, discussion, observation, and experimentation (Cervetti, Pearson, Bravo & Barber, 2006).

Many techniques are available for helping students to tackle unfamiliar vocabulary in stories, such as suggesting that they substitute a known word that makes sense in the context or use the context of the sentence or paragraph for clues to find meaning (Graves, 2006). These strategies can be useful for the unique words of stories but the theme of this article is that teachers need to make the distinction between the unique words of stories

and informational texts explicit to their students. To be proficient with complex texts, students need to know about the ways unique words differ in stories and informational texts. For teachers to teach in a way that uncovers these unique kinds of vocabularies in stories and informational texts, a first understanding involves the 90%/10% distribution in the vocabularies of texts (Hiebert, 2011).

### Distinguishing the Unique Words from the 90%

The most frequently used words belong to a relatively small vocabulary set that comprises 90% of the words in texts. This word set has a base of 4,000 simple word families, which generates approximately 10,000 words (Hiebert, 2012). With a few important exceptions (e.g., *the*, *a*, *an*), words are part of the core vocabulary because they have multiple meanings. For example, the word *energy* is an essential concept in physics. But there are many applications of the idea of intensity or vitality of action in other subject areas. Characters in stories

are described as *full of energy* or a newspaper columnist describes an individual as *an energetic defender of human rights*. The various applications of this concept (in literature, social studies, arts, sciences) add to the word's frequency and also add to the number of potential exposures a student might have to the word. By contrast, the word *electrochemical* is also a physics concept but, since it is used only within a particular subject area, students are unlikely to encounter it frequently. So, the difference between the core lexicon with broader application and the unique lexicon with limited application is clear, even though both types of words can be part of academic vocabulary. Beck and her colleagues (Beck, McKeown & Kucan, 2002) frequently describe this difference as Tier 2 (core vocabulary) and Tier 3 (unique vocabulary).

Many of the words within the core vocabulary are part of extended morphological or word families that include inflected endings, affixes, compound words and idioms/common phrases. All word families do not take the same form as words with Anglo-Saxon roots such as *help* which is illustrated in

Table 2

Illustration of a Word Family with Romance Origins: *Socio* (Companion)

Suffixes	Prefixes	Compound Words	Complex Phrases
social/socially socialize sociable society societal socialite socialist	associate association disassociate unsociable anti-social	socioeconomic sociology/sociologist sociopath socialism	social science social criticism social democracy social mobility social studies social welfare social work/social worker

Table 1. Words with roots in French and Latin typically take on many more prefixes and suffixes as illustrated by the word family for *socio* in Table 2. Teaching morphology not only expands vocabulary around a single root but also gives students patterns they can apply to other roots. This helps students build their vocabulary exponentially. The more familiar students are with the words that are in the 90%, the better their base will be for tackling those in the 10%.

### Distinguishing the Words Within the Unique 10%

The unique 10% is made up of two groups: technical words that convey specific concepts in their own subject area and sophisticated literary words. The difference between these two subgroups of unique words is tied to the genres in which they are found. As illustrated in Figure 1, both stories and informational books share a core vocabulary but the unique words

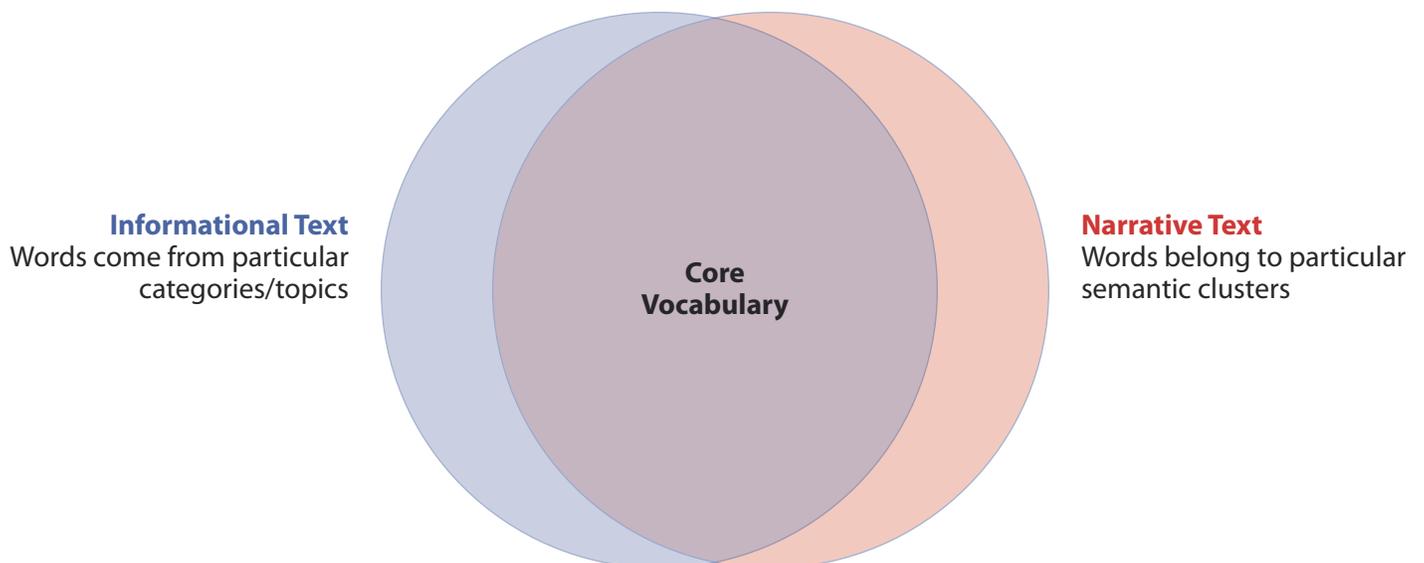
in the two genres are different. The nature of these differences can be seen in the two examples in Table 3. Unique words such as *sobbed*, *humiliated*, and *collapsed* in the story give the reader an understanding of how the character was feeling. The unique word in the informational text—*magnetism*—represents the technical concept that is the focus of the text.

### The Unique Words of Stories

Narratives, even fantasy-based, are rooted in familiar concepts. The

Figure 1

Vocabularies of Informational and Narrative Texts



**Table 3**  
Unique Words in a Third-Grade Story and Informational Text

Text Type	Texts
Story	<p>How many times had she said that dumb poem? She wanted the earth to open up and swallow her whole. “I can’t remember.” She <b>sobbed</b>.</p> <p>Then someone began to <b>applaud</b>. She had seen that done for little kids who messed up. This wasn’t supposed to happen—not to her.</p> <p>Feeling <b>humiliated</b> and not knowing what to do, she ran. Bounding <b>offstage</b>, she <b>bolted</b> for the side door and rushed into the parking lot.</p> <p>Strong arms caught her just as she <b>collapsed</b> beside the family car. <b>Carolyn</b>. It was Mama who held her tightly. Mama’s voice was as <b>soothing</b> as a warm breeze. You’re going to be fine, daughter. Just fine.</p>
Informational Text	<p>Magnets pull objects that are made of certain metals, such as iron. The force that magnets produce is called <b>magnetism</b>. <b>Magnetism</b> can be a pushing or pulling force. Look at the picture below. Notice how some objects stick to the ends of the bar magnets. The ends of the bar magnets are called poles. The objects that are sticking to the poles of the bar magnets are made of iron or have iron in them. The objects that are not sticking to the poles of the bar magnets do not have iron in them.</p> <p>Objects stick to a magnet’s poles because that is where <b>magnetism</b> is strongest.</p>

Words in boldface type are unique words

characters of stories, whatever their form (e.g., animals, machines, or people) have recognizable personality traits. Stories also have familiar plot arcs: rising actions, a turning point, and a resolution. Plots themselves fall into well-worn patterns that readers might recognize such as a hero’s journey with a goal and obstacles or a mystery to be solved. Unknown words in a narrative context are there to provide

specificity and texture to a created world that is based on the known world.

Consider, for example, words around communication. The idea that people speak or talk is something children already know. Children learn through reading that speech can be characterized in different ways: *softly*, *sweetly*, *sharply*, *abruptly*, and *caustically*. They learn that silence can have different

moods: *eerie*, *peaceful*, or *awkward*. The task when encountering unfamiliar words in a narrative is to find the connection to the known, using information in the story. Students can learn much about life, the world through another’s eyes, the different motives people have behind their actions, and more from reading narratives, yet the story is always grounded in common experience. Because of that ability to make connections, it is possible to understand a story without a deep grasp of unique words, as long as students don’t have to skip over too many of them (Swanborn & deGlopper, 1999). The advantage of learning these words is that they add nuanced understanding to known concepts and they can be transferred to students’ own working vocabularies, either as sight words or words they use in their own writing.

### The Unique Words of Informational Texts

The purpose of informational texts is to introduce new essential concepts to students’ understanding of the world. The new concepts are carried by unique technical vocabulary. These unique words are expanding the boundaries of particular categories of learning, and the surrounding words provide important context. For that reason students cannot use their existing understanding to approximate the meaning of unfamiliar words in informational texts. The unique words in this kind of text, such as *isotope*, *mitochondria*, and *igneous*, have no synonyms. They are singular terms that encapsulate specific concepts.

**Table 4**  
Positive and Negative Synonyms: *Compliment*

Positive Connotations	Negative Connotations
praise commend extol honor applaud	flatter butter up cajole fawn bootlick

In informational text the vocabulary and the concepts are fused, and there is no way to properly understand the meaning of the text without a solid understanding of the unique, low-frequency words. There is no way to skip over hard words and still maintain a general understanding of the subject-area topic, requiring students to have an understanding of the words to comprehend the content. What is important to note is that students cannot succeed in their subject area studies without a solid working knowledge of these terms. The recommendation to read the definition of such words in the glossary is not the best advice. Teachers need to tailor their vocabulary instruction to fit the properties of these conceptually complex words, as illustrated in the next section.

## Adapting Instruction for Unique Words of Stories and Informational Texts

### Instruction for the Unique Words of Stories

Descriptive literary words, such as *satiated*, *incandescent*, and *ennui*, often have synonyms that are more commonly known, such as *full*, *bright*, and *boredom*. The more difficult words add shades of meaning or intensity to the known words, so it is important to help students make those connections. The context of the text does not always aid in decoding the exact meaning. For example, “Jason received his grade and was nonplussed.” You can tell from sentence only that *nonplussed*

is a word describing Jason’s reaction. In order to use context, you would have to do a deeper reading of Jason’s character and/or his situation to begin to guess what synonym (confused) might make sense there. As this illustration shows, teaching vocabulary is part of teaching comprehension skills, to teaching the comprehension skills that help student make inferences about unknown vocabulary words. As instructors, we can support these skills by asking questions that will prompt students to think along those lines.

Teachers can also recommend techniques that target the properties of this subgroup. As noted above, these words tend to branch off known concepts. So, one way to organize this vocabulary is to set a group of synonyms on a continuum of intensity (Figure 2). In this case, the words at either end are likely to be known and the new words form degrees of intensity in between.

Synonyms can be mapped in other ways, too, such as dividing words into negative and positive connotations, as illustrated in Table 4. The value of these techniques is twofold. First, students will have a

**Figure 2**  
Introducing Unique Words by Arranging a Group of Synonyms along a Continuum of Intensity Anchored by Core Vocabulary Words



Words in boldface type are core vocabulary words

finer sense of the word's meaning when it is put in relation to similar words. Second, since the technique allows for a group of words to be learned together instead of singly, students will be enrich their vocabulary exponentially.

### Instruction for the Unique Words of Informational Texts

The words used to define technical words, such as *hypotenuse*, *triangle*, and *angle* will belong to the same discipline, so supporting knowledge in that area is very important. Defining *hypotenuse* as the long side of a triangle only makes sense if you know what a triangle is. The spiraling curriculum shows how concepts circle around and are addressed with greater complexity in regular intervals. It is important that students learn the basic concepts when they are introduced because that knowledge underlies more advanced concepts and that foundation will be needed again and again.

Often, students are alerted to a technical word in a textbook by its appearance in boldfaced type, cueing them that a glossary definition is available. A definition that is more difficult than the unfamiliar unique word will be of no assistance, unless the text adds an additional embedded definition or cites. When teachers know how technical words related to a concept are interrelated, they can suggest activities that offer student in-depth experiences with the concept. Students can devise an experiment to demonstrate gravity. Students can make a model of a triangle and label the hypotenuse, make a diagram of photosynthesis with arrows and descriptions, or

make a map and draw their own lines of longitude. The big idea here is to demonstrate the meaning of these words, as unique concepts within a discipline supported by concepts that are understood. A multi-sensory experience is best so students can experience the concept, discuss it, record it, write it, and apply it (Cervetti, Pearson, Bravo & Barber, 2006).

### Summary

Understanding how to sort vocabulary into groups according to their context and function can help teachers to target the best kind of learning strategies for students. There are many good vocabulary strategies, but some are a more efficient use of instructional time. Using morphology to unlock the relationships between the core words that connect back to 4,000 word families is a great way to teach unfamiliar words that belong to the 90%. Finding ways for students to interact with unique technical words deepens their understanding of the context and underlying concepts. It makes a stronger platform for continued learning in the subject area. Having students map out unique literary words helps students understand the relationship between synonyms and their varying shades of connotations. This mapping technique gives students a surer footing for making specific word choices than they would have if these words had been learned separately. As the new standards challenge students with increasingly complex texts, a strong vocabulary is going to be students' greatest asset. <sup>T</sup>

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