



Core Vocabulary

The Foundation for Successful Reading of Complex Text

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Success in the digital age depends on comprehending complex text. That is the message from the Common Core State Standards/English Language Arts—and it is an urgent, timely, and appropriate message. To participate fully in the digital age requires individuals to be able to process large amounts of texts filled with challenging concepts and vocabulary. The learning from complex texts in content areas and literature needs to be the centerpiece of schooling in the 21st century.

Learning from complex texts begins early in school, not something that happens when students are in middle or high school. In two appendices, the writers of the Common Core State Standards/English Language Arts (CCSS/ELA; Common Core State Standards Initiative, 2010) describe the manner in which students follow a staircase of complex texts that begins in grade 2 and, if followed, ensures that high school graduates are able to read the complex texts of college and careers. Even the most complex texts within a grade band (includ-

ing grade two-three), the CCSS/ELA writers argue, can be experienced by less able readers through support from teachers or digital devices.

But if stretch texts come to dominate classrooms, will less able readers develop foundational reading? At present, a third of an American cohort fails to attain a basic standard and another third fails to attain the proficient standard on the National Assessment of Educational Progress (NAEP; National Center for Education Statistics, 2009)—and these assessments used texts less difficult than those on CCSS/ELA staircase of complex text. Will approximately two-thirds of a grade cohort develop capacity to read even complex independently, if much of their school time is spent in supported reading events with hard texts? No evidence exists that independent reading skills increase when students spend much of class time with hard texts that are read to them. For developing and struggling readers, parts of class time can be spent on reading events where they listen or follow along in challenging text but they also need to spend time developing capacity to read independently. Central to this capacity is automatic recognition of the core vocabulary of English—a group of 4,000 simple word families with 10,000 members (Zeno, Ivens, Millard, & Duvvuri, 1995). This core vocabulary accounts for the majority—about 90%—of the words in the complex texts of college and careers.

This article is a clarion call for attending to the core vocabulary within the primary grades. Emphasizing the core vocabulary does not

require that either texts or content be dumbed down. Even within the first 1,000 words, there are numerous words that pertain to nature (e.g., *forest, soil, river, environment*), human relationships (e.g., *family, friend, parents, sister, husband*), social institutions (e.g., *government, nation, economy, language*), and science (e.g., *weather, energy, temperature, machine*). To design lessons and select texts that increase students' capacity with core vocabulary and, simultaneously, acquire new content requires that educators understand the core vocabulary and its relation to the thousands of other words that make up English.

Understanding Complex Text

Texts can be complex for many reasons but a text's vocabulary and sentence length determines text difficulty on the Lexile scale that is the basis of the CCSS/ELA's staircase of complex text. In previous readability formulas (e.g., Dale & Chall, 1948), a text's vocabulary was matched against a graded word list. If the word *accident* was tabbed as a grade-5 word but appeared in a grade-2 text, the weight of the vocabulary variable in the readability formula increased. Lexiles function differently. Each word in a text is given a frequency based on all words in a database. An algorithm is used to make the distribution more "normal" but even this is limited because of the uneven distribution of words in written English. The core vocabulary that accounts for 90% of all the words in texts consists of less than 3% of all the words in English. The bulk of English vo-

cabulary (i.e., the "other 97%") or the extended vocabulary is made up of approximately 290,000 words (Simpson & Weiner, 2009). In complex texts, the extended vocabulary typically accounts for 7–10% of the words. These words give texts precision and specificity but they are infrequent.

A big step in becoming a reader is to become proficient with the core vocabulary. High percentages of rare words from the extended vocabulary can divert developing readers' attention away from the core vocabulary. Take the classic *Frog and Toad Together* that has appeared in numerous core-reading programs for second grade. Less than 1% of the words in this text are from the extended vocabulary. With few rare words, *Frog and Toad Together* gets a Lexile of 390, which puts it below the designated "step" for grade 2–3 in the CCSS/ELA staircase of text complexity. The average Lexile for the texts identified by the CCSS/ELA for the grade 2–3 band was 690, with an average of 7% of the words in the extended vocabulary. That means that, for a text identified by the CCSS/ELA such as *Art Around the World*, developing readers encounter about 28 potentially new words in a 390-word text, unlike *Frog and Toad Together* with four such words.

A long-standing guideline has been that independent reading occurs with comprehension when readers are familiar with approximately 98–99% of the words in the text. Once the percentage of known words falls to the low 90s, readers begin to be frustrated and their comprehension drops markedly. Since most second graders are

still developing facility with core vocabulary, almost all of the texts on the CCSS/ELA grade 2–3 band will have high percentages of words that they are likely seeing for the first time.

Acquisition of core vocabulary is neither serendipitous nor quick. To recognize these words depends on foundational skills in generalizing letter-sound knowledge and knowledge of morphemes (i.e., affixes, inflected endings, and roots in compound words) and recognizing the multiple meanings of the core vocabulary. Developing this foundation is the task of the primary grades.

The Core Vocabulary

Many features of words influence how quickly they are learned but research shows that approximately 10 repetitions ensure ease with a word's meaning (McKeown, Beck, Omanson, & Pople, 1985). All of the 4,000 root words in the core vocabulary occur 10 or more times per million words of text. These words should not be equated with the short list of function words that Dolch (1948) identified. Among the 4,000 simple root words are many concept words—such as *ocean*, *iron*, *heart*, *law*, *president*, and *scientists*.

The reason for the frequency of words in the core vocabulary is their versatility. Most core words take on many different meanings. The words in the extended vocabulary are not as frequent because they are simply not as versatile, which can make their meanings easier to remember (e.g., *rambunctious*, *entomologist*, *parasol*). Two words, *force* and *figure*, illustrate the

complexity of the core vocabulary. Common meanings of *force* include “trained group” and “strong effect” when functioning as a noun. As a verb, the meaning of *force* means to cause something or use strength. Both words also illustrate that meanings can range from the informal (e.g., *that figure*) to the precise (e.g., *figure* in mathematics). Many core vocabulary words are also frequently found in phrases or compound words with unique or nuanced meanings (e.g., *force of nature*, *six-figure income*). Further, the meanings of root words can change when affixes are added (e.g., *forcibly*) or when part of compound words (e.g., *figurehead*).

Developing Capacity with the Core Vocabulary

These two words—*force* and *figure*—are by no means unique within the core vocabulary. The core vocabulary is riddled with words that have multiple meanings, have different grammatical roles, and take on unique meanings in phrases and compound words. Not by any stretch of the imagination does learning the core vocabulary result from simple didactic instruction (e.g., sending parts of the list home for children to memorize). Lessons that teach features of English words are necessary. But, in addition, students need many, many experiences with texts that emphasize the core vocabulary.

These texts follow a staircase of core vocabulary that was evident in the work of Chall (1983) and others (Harris & Jacobsen, 1990). Students

need to scale the staircase of core vocabulary before they can successfully negotiate the complex texts identified by the CCSS/ELA. Each step on the core vocabulary staircase extends the range of vocabulary and phonics and root word knowledge needed for successful reading. When carefully crafted, these texts also reinforce and develop critical concepts. These texts are, by no means, the “Dick and Jane” texts of a previous era.

The staircase of core vocabulary begins with texts that have a high percentage of words that are familiar to young children and have consistent and common phonological-orthographic patterns and root words. Consider the following text where all words are among the 150 most-frequent words or have common short or long vowel pattern.

Look at these seeds. Some are little seeds and some are big seeds. Do little seeds grow into big plants? Do big seeds grow into big plants? Some little seeds will grow into big plants. Some big seeds will grow into little plants. This little seed grew into this big tree. (Hiebert & Folkins, 2011)

Texts such as this one are quite different than many current beginning reading texts where high percentages of words from the extended vocabulary and are not phonetically regular (Foorman et al., 2005). The illustration above shows that there are alternatives where texts attend to engaging and critical content (e.g., plants, animals, stars), while at the same time increasing students' capacity with core vocabulary.

As Chall (1983) emphasized in her stages of reading, it is at the second and third grade level where instruction and texts with the core vocabulary is essential. Unless students have scaled the core vocabulary staircase, they are like to fall into the “fourth-grade slump” and do poorly with complex texts. For second and third graders, science is a particularly appropriate area in which to develop the core vocabulary (and concepts) since authors intentionally repeat words from the extended vocabulary. The following excerpt shows that important science concepts can be communicated with the 1,000 most-frequent words and/or common and consistent phonics patterns—an important step in the core vocabulary staircase for second graders.

But without soil, we could not live. Remember, most plants need soil to grow. And people and many other animals eat plants. Or they eat animals that eat plants. Try to name something that doesn't need soil to live! (Bergman & Pearson, 2008)

Students need to successfully climb the staircase of core vocabulary in the primary grades. But what about the middle and high-school students who did not achieve this feat as primary students? Can these students develop the needed capacity with the core vocabulary but still participate with complex texts? Yes, but texts and instruction need to be particularly well-crafted. One effort that illustrates how developing readers at the high school level can increase their capacity with core vocabulary and read complex texts uses a digital format. Students

are provided with background information and explanations about complex texts that they will read. The background and explanations are written with a heavy concentration of core vocabulary, as is the case with the preface to reading *Self-Reliance* by Ralph Waldo Emerson:

Like Thoreau, Ralph Waldo Emerson also thought that people should stand up for their beliefs. According to him, people needed to believe in their own talent and ability to accomplish great things. He wrote a famous essay called “Self-Reliance,” in which he argued that people can do great things if they are willing to strike out on their own and fight for what they believe in. Read and think about the following passage from “Self-Reliance.” (Apex Learning, 2011)

The CCSS/ELA directs attention of educators to an essential mission of reading instruction that has been particularly lacking over the past decade of Reading First—complex texts as a source of information. At the same time, educators cannot forget that developing capacity with the core vocabulary is essential for independent reading of complex texts. Without this foundation, students may be involved in read-alongs and read-alouds where more proficient peers, teachers, and digital devices support them with the words. To increase students' capacity with complex texts require that they first scale a staircase of core vocabulary. Without this foundation, students will never be the consumers of complex text they

need to be for full participation in the digital age. **T**

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