Meeting #4
Agenda

9.00 a.m.	Review: Unpacking a prototypical ELL reader
9.15 a.m.	Welcome to ELA USA: Insights into standard practices
	-Activity: Our Instructional Practices
10.00 a.m.	From standard to exemplary practice
	-Key instructional shifts
10:30 a.m.	From standard to exemplary practice
	-A spotlight on Academic Language
11.45 am.	Lunch
12.30 p.m.	Moving Towards Instructional Improvement at your Site: Key take-aways for AL instruction
1.45 p.m.	The instructional core: Selecting programs and interventions
2.30 p.m.	Next Steps

Discussion Guides

After reading each article, use the guiding questions below and the structured protocols provided as an entry point into discussion for your professional learning community (PLC).

Article 1: Kieffer, M. J., & Lesaux, N. K. (2007). Breaking down words to build meaning: Morphology, vocabulary, and reading comprehension in the urban classroom. *The reading teacher*, *61*(2), 134-144.

Guiding Questions:

Kieffer and Lesaux (2007) draw on data that suggests that morphology instruction may be a beneficial addition to a comprehensive vocabulary and reading comprehension program for upper elementary school students. Given this, educators of ELLs might consider:

- ***For All***: How might morphology instruction be woven into our existing curricula?
- ***For ELLs***: What are the natural bridges that might be made between morphology and cognate instruction for English Language Learners in our classrooms? How can ELLs be positioned as knowledge holders during these instructional events?

Article 2: Kelley, J. G., Lesaux, N. K., Kieffer, M. J., & Faller, S. E. (2010). Effective academic vocabulary instruction in the urban middle school. *The Reading Teacher*, *64*(1), 5-14.

Guiding Questions:

The authors argue that for a series of instructional considerations for academic vocabulary teaching (teach a small number of high-utility words in depth through text and talk, including multiple planned exposures to the words, and provide strategies for word learning). Given this, educators of ELLs might consider:

- ***For All***: How many of these instructional considerations are evident in our current curricula? (utilize the "AL Teaching Matrix" as an extension activity)
- ***For ELLs***: What are the natural bridges that might be made between morphology and cognate instruction for English Language Learners in our classrooms? How can ELLs be positioned as knowledge holders during these instructional events?

Article 3: Lesaux, N. K., Harris, J. R., & Sloane, P. (2012). Adolescents' Motivation in the Context of an Academic Vocabulary Intervention in Urban Middle School Classrooms. *Journal of Adolescent & Adult Literacy*, *56*(3), 231-240.

Guiding Questions:

The authors find that vocabulary instruction attune to the developmental needs of adolescents to be viewed as knowledge holders can support motivation. Given this educators of ELLs might consider:

- ***For All***: How can instructional routines that allow students to demonstrate budding vocabulary knowledge be integrated into daily instruction as a way to foster word learning *and* academic motivation?
- ***For ELLs***: What additional instructional scaffolds might ELL learners benefit from to support them in developing self-efficacy as language learners (considering a range of English proficiency levels)

Breaking Down Words to Build Meaning: Morphology, Vocabulary, and Reading Comprehension in the Urban Classroom

Michael J. Kieffer, Nonie K. Lesaux

When it comes to teaching vocabulary, a little knowledge (of root words, prefixes, and suffixes) goes a long way.

Ms. Jenkins (All names are pseudonyms) reads a newspaper article regarding a recent poll regarding a recent poll of public opinion about the U.S. President with her fourth-grade class. She stops to pose a question, "What does *popularity* mean?" The room is silent for a few moments as the 9- and 10-year-olds put their minds to work. Antonio, a student known more for the frequency of his answers than their accuracy, raises his hand. "It's like something about the president." "OK," Ms. Jenkins notes. "Can anyone add to what Antonio said?"

Ms. Jenkins faces a sea of furrowed brows and blank stares. She glances at the clock on the wall and begins to wonder if they will make it through the text before lunch. After a long silence, Brenda responds. "It's what the people think about the President, like how much they like him," she suggests. "Great, Brenda. You're right, how did you figure that out?" "Well," Brenda pauses. "I looked at it for a while, trying to find a word inside it that I do know like you told us to do last week—and I found the word *popular*. A popular kid is, you know, a kid that people like, so I figured that *popularity* must have to do with that." "Good work, Brenda, in attacking that word to find a part that you know. Did anyone try something different?" After a longer pause, Rafael raises his hand, "Well, I did what Brenda did. But when you say *popular* I think of Spanish, and it's *como popular*. And when on television they say *el Presidente es popular*, it means they like him."

The scene above resonates with many teachers we know. As students read challenging texts, especially those in the content areas, they encounter increasingly complex words. When confronting a novel word, many students are like Antonio—they have a vague notion of what the word means, but they lack a specific understanding of it, and others may not recognize the word at all. As a result, students' comprehension of a text may suffer. Without a firm grasp on the definition of a key word such as *popularity*, many students like Antonio are likely to miss the meaning of the passage. Even when teachers provide appropriate scaffolding with respect to decoding these words by reading them aloud, students with limited vocabularies may not be able to access the meaning of the text (Anderson & Freebody, 1981; RAND Reading Study Group, 2002).

Research evidence confirms what many teachers know—students who reach fourth grade with limited vocabularies are very likely to struggle to understand grade-level texts (e.g., Chall & Jacobs, 2003; National Institute of Child Health and Human Development, 2000; RAND Reading Study Group, 2002; Biancarosa & Snow, 2004). Unfortunately, this is often the case in urban or low-income schools in the United States. Even before they arrive at school, students in low-income neighborhoods tend to have smaller vocabularies than their counterparts in high-income schools, and this gap tends to increase with time (Hart & Risley, 1995; Molfese, Modglin, & Molfese, 2003; Organization for Economic Co-operation and Development, 2000). Along with many others, Rupley, Logan, and Nichols (1998/1999) argued that vocabulary is an essential and

The Reading Teacher 61(2), pp. 134–144
DOI:10.1598/RT.61.2.3

© 2007 International Reading Association
ISSN: 0034-0561 print / 1936-2714 online

often overlooked component in any balanced literacy program, a sentiment increasingly recognized in recent years (Cassidy & Cassidy, 2005/2006).

A large and rapidly growing segment of students in urban schools in the United States are English-language learners (ELLs). These learners are particularly likely to lack the English vocabulary they need to comprehend difficult texts (August, Carlo, Dressler, & Snow, 2005). An increasing number of ELLs are students who immigrated before Kindergarten age or who are the U.S.-born children of immigrants (August & Hakuta, 1997). By the fourth grade, most of these students have acquired the basic, interpersonal English they need to communicate with their classmates and teachers, but continue to lack the academic English vocabulary to comprehend content area texts. These learners, along with many of their native English-speaking classmates, require thoughtful, targeted instruction in academic English vocabulary in upper elementary school.

Despite their limited vocabularies, some students have effective strategies for learning new words, and these strategies can and should be taught to others. Effective word-learners attack unknown words, break them into their meaningful parts, hypothesize meanings for the larger words, and then check their meanings against the context of the text as well as their own background knowledge (Anderson & Nagy, 1992; Freyd & Baron, 1982). In the process, they use their knowledge of high-frequency root words to access low-frequency words. For example, Brenda can use the root word *popular*, a word that is commonly heard on the playground, to access the more infrequent word *popularity*. Because many of the difficult words that students encounter contain root words that are more commonly known, this strategy can be very powerful. Spanish-speaking ELLs, like Rafael, who have a developed knowledge of their first language, can use their knowledge of word parts in that language to understand English words. In each of these cases, the children are using their ability to think about the forms of language to derive meaning.

© Getty Images.com

Considering the limited vocabularies of many students in urban schools, equipping them with effective strategies for learning new words is essential. Instruction that provides these strategies is crucial for ELLs and for many of their classmates in urban schools who face similar struggles with reading comprehension.

In this article, we describe what reading research can tell educators about the role of word-attack strategies in reading comprehension. In particular, our recent study with urban fourth- and fifth-graders in California suggests that breaking down words into meaningful parts is important for both Spanish-speaking ELLs and their native English-speaking classmates. We first explain what research says about vocabulary and reading comprehension, then describe the findings of our study, and finally suggest some general principles and specific activities with which teachers can improve their students' abilities to break down words to build up meaning.

What Does the Research Say?

Vocabulary, Comprehension, and the Fourth-Grade Slump

Decades ago, reading researcher Jeanne Chall identified a trend well known to teachers—many students succeed in learning to read and comprehend simple texts in the early grades, yet struggle to comprehend grade-level texts in the upper elementary years (Chall, 1983). Although it is not entirely clear what causes this "fourth-grade slump" or what factors put urban students at greater risk for these difficulties, there is a general consensus among researchers that vocabulary (Freebody & Anderson, 1983; RAND Reading Study Group, 2002), increasing word length and complexity (Juel, 1988), and differences in exposure to print each play a role (Cunningham & Stanovich, 1991). As the vocabulary demands of texts increase in the upper elementary and middle school grades, many students struggle with comprehension. A particular source of difficulty is their academic vocabulary—the words necessary to learn and talk about academic subjects. This academic vocabulary plays a more prominent role as students read to learn about science and social studies concepts in upper elementary and middle school.

Our own research and teaching in urban schools supports the importance of academic vocabulary in students' success or struggles. First author, Michael Kieffer, found that his students in an urban middle

school lacked much of the vocabulary to read grade-level texts. Urban students with below average vocabularies need thoughtful and strategic vocabulary instruction.

Vocabulary and reading comprehension have a reciprocal relationship—as greater vocabulary leads to greater comprehension, better comprehension also leads to learning more vocabulary words (Stanovich, 1986)—and this relationship has major implications for the teaching of reading (Rupley, Logan, & Nichols, 1998/1999). Although most research in this area has been conducted with native English speakers, current studies suggest that a similar reciprocal relationship between reading and vocabulary exists for ELLs (García, 1991; Proctor, August, Carlo, & Snow, 2005).

Not all strategies for learning words are made equal, nor will all strategies work for all learners.

Researchers emphasize the importance of vocabulary yet also point out that knowing a word well involves the combination of several different types of knowledge. In his clear and concise volume on vocabulary development, Stahl (1999) suggested that knowing a word means not only knowing its literal definition but also knowing its relationship to other words, its connotations in different contexts, and its power of transformation into various other forms. Students who can master these different aspects of knowing a word have strong depth of vocabulary knowledge, and students who are familiar with many words have breadth of vocabulary knowledge. Antonio, having been previously exposed to word the word *popularity*, has a vague notion of what it means, but he lacks this depth of knowledge about the word; with only a superficial understanding of this key word, his comprehension will likely suffer.

Closing the Word Gap

Although teachers and researchers agree on the importance of academic vocabulary, less consensus exists concerning how such vocabulary can be learned. Some emphasize wide-ranging free reading as the primary vehicle through which words are learned. For example, Anderson and Nagy (1992) argued that the word-learning task is enormous—they estimated that students reading on grade level learn between 2,000 and 3,000 new words a year—and therefore concluded that most words must be learned through context. In support of this argument, researchers described the strong correlation between students' volume of reading and their vocabulary knowledge (Cunningham & Stanovich, 1991).

Other researchers insist that explicit instruction (of at least some of the low- and medium-frequency words likely to be challenging to students) is crucial for vocabulary learning. Beck, McKeown, and Kucan (2002) argued that the information provided by context is often too limited or misleading to be reliable in effectively supporting students' learning of new words. The National Reading Panel (National Institute of Child Health and Human Development, 2000) supported this view, finding that direct instruction of vocabulary improves comprehension. They found insufficient evidence to prove that extensive reading programs such as Silent Sustained Reading improved vocabulary, at least when implemented without complementary instructional techniques.

A balanced approach to vocabulary instruction combines explicit instruction of a limited number of well-chosen words with instruction in strategies with which students can acquire words independently (Graves, 2006; Stahl, 1999; Stahl & Nagy, 2006). Implementing such an approach ultimately requires that teachers know how to teach specific words and know which strategies are the most efficient and effective for students to use when learning words independently. Not all strategies for learning words are made equal, nor will all strategies work for all learners. To identify those word-learning strategies that will best equip students to comprehend text, researchers have investigated the strategies that successful learners use naturally.

One way to identify effective strategies is to examine students' use of various strategies, and to analyze how these strategies relate to students' performance on reading comprehension assessments. Although the average vocabulary level of students in urban schools is often below the national average, great differences exist among students' individual levels, suggesting that some urban school students are more successful in learning vocabulary than others. By examining what strategies average and above average word learners use regularly, differentiating them from below average word learners, one may be able to identify the tools that could help move all students forward in

their vocabulary and comprehension. In our own research, we found that one such tool is morphology.

Morphology: What Is It and Why Does It Matter for Reading?

The word *morphology* can be broken down (morphologically) into two meaningful parts (known as *morphemes*): *morph-* meaning shape and *-ology* meaning the study of. Thus, morphology, in its most generic form, is the study of shape. In language and reading, morphology refers to the study of the structure of words, particularly the smallest units of meaning in words: morphemes. Morphemes are generally one of the two following types:

1. Bound morphemes, which are prefixes and suffixes that cannot stand alone as words, such as *geo-*, *re-*, and *-ity*; and
2. Unbound morphemes, which are roots within more complex words that can stand alone as words, such as *popular*.

Bound morphemes that are suffixes are one of the two following types:

1. inflection morphemes such as *-ed* and *-s* that change the tense or number of a word without changing its part of speech, and
2. derivational morphemes such as *-ity* and *-tion* that change a word's part of speech.

For example, adding *-ity* changes *popular* from an adjective to the noun *popularity*. When an inflectional morpheme is added, as in walk*ed*, we call the new word inflected whereas when a derivational morpheme is added, as in inform*ation*, we call the new word derived.

An understanding of word structure can be a powerful tool for students faced with the daunting task of acquiring academic vocabulary. A large number of the unfamiliar words that students encounter in printed school English could be understandable if students knew the more common root word and could break the complex word down (Nagy & Anderson, 1984). Because texts contain many of these complex but decipherable words, children's abilities to attack and dissect them are essential to their understanding of these texts.

Children develop awareness of morphology throughout their childhood and into their adolescence. Young children generally understand how inflectional morphemes (such as *-s* on plurals or *-ed* on past-tense verbs) are attached to words, whereas children in upper elementary school continue to develop understanding of how derivational morphemes connect to words (such as *-ity* on *popularity*; Tyler & Nagy, 1989). This development follows a relatively predictable sequence, although the rate at which students progress through the sequence varies considerably between children. As a result, students at a given grade level can be at very different levels in their awareness of morphology. Teachers can get some sense of where their students are on this developmental continuum by administering a developmental spelling inventory (for an example, see Bear, Invernezzi, Templeton, & Johnston, 2000).

A few studies have shown that understanding of derivational morphology is related to reading comprehension (Carlisle, 2000; Freyd & Baron, 1982; Nagy, Berninger, & Abbott, 2006). Because the ability to attack and dissect words is our particular focus, we will use the terms *morphology* and *breaking down words* interchangeably in the remainder of this article. Although there are many ways in which students can understand morphology, the ability to use morphology to attack novel words is the most promising for improving reading comprehension

What Did We Investigate and What Did We Find?

Because the relationship between morphology and reading comprehension had primarily been studied among native English speakers in suburban contexts, we wondered whether this relationship also held up among Spanish-speaking English-language learners and native English speakers in an urban context. This research seems particularly important given the apparent difficulties that these populations have with acquiring vocabulary and comprehending academic text.

Our study examined how students' ability to break down words related to their vocabulary knowledge and reading comprehension in fourth and fifth grade. We also examined how this relationship changed between fourth and fifth grade. We collected data from 111 students (87 Spanish-speaking ELLs and 24 native English speakers) in a large urban district in southern California in both fourth and fifth grade. Students' understanding of morphology was assessed by asking

them to extract the root word from a complex word to complete a sentence (e.g., students were given *popularity* and asked to complete "The girl wanted to be very _____"; see Table 1 for a list of the words used on the task). Students were also given a range of standardized tests assessing reading comprehension, word reading fluency, and vocabulary. We assessed reading comprehension with the Woodcock Language Proficiency Battery-Revised, Passage Comprehension subtest, which is a cloze test in which students provide a word to complete a passage; and the Gates-MacGinitie Reading Comprehension Test (1989), which is a traditional multiple-choice test. We assessed word reading fluency with the Test of Oral Word Reading Efficiency, Sight Word Efficiency subtest (1999), which is a timed test in which students read as many words of increasing difficulty as they can in 45 seconds. Vocabulary was assessed with the Peabody Picture Vocabulary Test (3rd edition), which is a multiple-choice measure of receptive vocabulary knowledge in which students hear a word and choose an appropriate picture.

Following an analysis of these relationships in the context of reading development and instruction, we have two major findings about comprehension and vocabulary to report.

Morphology and Comprehension

We found that morphology was related to reading comprehension in both fourth and fifth grade, and became more important as students grew older. Students with greater understanding of morphology also have higher reading comprehension scores, when holding constant their word reading fluency. Although this relationship was significant in fourth grade, it grew stronger in fifth grade, such that students' understanding of morphology was a better predictor of reading comprehension than their vocabulary level. In addition, we found that this relationship was the same for Spanish-speaking ELLs as for native English speakers in an urban setting. That is, morphology was equally

Table 1
Items on Fourth-Grade Morphology Test in Order From Least to Most Difficult With Spanish-English Cognates in Bold and Cognate Suffixes in Italics

Derived word	Root word	Root frequency (from www.wordcount.com)	Changes required
Runner	Run	High	Spelling
Growth	Grow	Medium	None
Dryer	Dry	High	None
Swimmer	Swim	Low	Spelling
Fourth	Four	High	None
Teacher	Teach	Medium	None
Discus*sion*	**Discuss**	Medium	Sound *Originality*
Originality	**Original**	High	Sound
Popularity	**Popular**	High	Sound
Baker	Bake	Low	Spelling
Courage*ous*	Courage	Medium	Sound
Fifth	Five	High	Sound, Spelling
Possess*ion*	**Possess**	Low	Sound
Activity	**Active**	Medium	Spelling
Divi*sion*	**Divide**	Medium	Sound, Spelling
Width	Wide	High	Sound, Spelling
Deci*sion*	**Decide**	Medium	Sound, Spelling
Availability	Available	High	Sound, Spelling
Glori*ous*	**Glory**	Medium	Spelling
Strength	Strong	High	Sound, Spelling
Fam*ous*	**Fame**	Low	Spelling
Admis*sion*	**Admit**	Medium	Sound, Spelling
Density	**Dense**	Low	Spelling
Furi*ous*	**Fury**	Low	Spelling

important for reading comprehension in both populations of students.

Vocabulary and Morphology

Students with larger vocabularies tended to have greater understanding of morphology. As with the relationship between reading and vocabulary development, the relationship between vocabulary and morphology appears to be reciprocal. Understanding morphology may help students broaden their vocabularies, and vocabulary growth may improve students' understanding of morphology. This suggests that teaching morphology may well work together with other types of context-rich and thoughtful vocabulary instruction to improve students' reading and language outcomes.

As shown in Table 1, some of the items on the morphology task were more difficult for students than other items. The following three factors influenced the difficulty of the items:

1. whether they required a change in sound to go from the derived word to the root (e.g. *popularity* to *popular*),
2. whether the word required a change in spelling (e.g. from *swimmer* to *swim*), and
3. the frequency of the root word.

As shown in Table 1, items that required both spelling and sound changes (e.g., *strength* to *strong*) were among the most difficult. Items that also included less frequent root words (e.g., from *furious* to *fury*) tended to also be difficult for students. The easiest items had common root words and did not require changes in spelling (e.g., *runner* to *run*, *growth* to *grow*). This finding suggests that teachers may need to point out to students how some derived words relate to their roots. Although students may automatically see the connection between *run* and *runner*, they may need to be taught to recognize that *strength* and *strong* are related. The findings also suggest that for some words, students need to be taught the meaning of the root even before they learn about its relationship with the derived word. Teaching students to recognize *fury* within *furious* can only be helpful if they first learn the meaning of *fury*.

The conclusion that students with greater understanding of morphology are more successful at learning academic vocabulary and comprehending text is a strong argument for including morphology instruction in language and literacy programs, especially in urban settings. This conclusion also raises important instructional questions regarding how teachers ought to go about teaching morphology in the context of general vocabulary instruction.

So, What Does Good Morphology Teaching Look Like?

We recommend four principles for teaching morphology to improve students' vocabulary and reading comprehension. These recommendations are based on the research findings described above, the frameworks and programs put forth by vocabulary experts in the field, and our own experiences working in urban schools.

Principle 1: Teach Morphology in the Context of Rich, Explicit Vocabulary Instruction

Our findings suggest that understanding morphology is related to, but also distinct from, overall vocabulary. Therefore, it makes sense that morphology strategies should be taught within the context of a comprehensive program of vocabulary improvement, but as a *distinct* component of that program. Although a complete discussion of effective vocabulary instruction is not possible here, it is worth summarizing some of the key elements that make up rich, explicit vocabulary instruction, with an emphasis on how morphology may fit into such a program.

Vocabulary instruction has been conceptualized in several different ways. In their classic meta-analysis on vocabulary instruction, Stahl and Fairbanks (1986) found that the most effective approaches provided multiple exposures to words, introduced the words in meaningful contexts, and involved students in deep processing of the words' meanings. By synthesizing results from 52 studies on the topic, they found that these methods had substantial effects not only on vocabulary knowledge, but also on students' reading comprehension.

Similarly, Beck, McKeown, and Kucan (2002) defined what they call "robust vocabulary instruction" as vigorous, strong, and powerful instruction that "involves directly explaining the meanings of words along with thought-provoking, playful, and interactive follow-up" (p. 2). They suggested that teachers

choose useful, academic words that appear in a wide variety of texts, provide student-friendly explanations for them, create instructional contexts that supply useful information about new words, and engage students in actively dealing with word meanings. Although they did not address morphology in particular, they highlighted the importance of teaching relationships among words. Teachers should emphasize the relationships among words based on their shared roots, prefixes, or suffixes.

In his recent book, Graves (2006) suggested that a comprehensive vocabulary program would include activities that serve the following four functions:

1. to provide student with "rich and varied language experiences" (p. 38),
2. to teach a relatively small number of well-selected individual words directly,
3. to teach word learning strategies, including morphology, dictionary skills, and the use of context clues, and
4. to foster "word consciousness," that is, students' "awareness of and interest in words and their meanings" (p. 119).

In this framework, understanding of morphology is firmly contextualized alongside other strategies for word learning.

Addressing the specific needs of ELLs, Carlo et al. (2004) suggested four principles that underlie an effective vocabulary program for these learners.

1. New words should be taught in meaningful contexts.
2. Words should be encountered in a variety of contexts.
3. Word knowledge involves depth of meaning as well as spelling, pronunciation, morphology, and syntax.
4. Native Spanish speakers should have access to the text's meaning in Spanish.

From this perspective, morphology is considered both a component of knowing a word well and a strategy for learning new words.

Principle 2: Teach Students to Use Morphology as a Cognitive Strategy With Explicit Steps

Our findings, along with those of other researchers, suggest that using morphology to manipulate words is best understood as a cognitive strategy to be learned, not simply a set of rules to be memorized. Like other strategies related to reading comprehension, this is a strategy that is best taught with the cognitive steps of the task in mind. To break a word down into morphemes, a student must complete the following four steps:

1. Recognize that he or she doesn't know the word or doesn't have a deep understanding of the meaning of the word.
2. Analyze the word for morphemes she or he recognizes (both roots and suffixes). As our findings indicate, this process may be more difficult if the word is not transparent, and particularly if it requires a change in both sound and spelling.
3. Hypothesize a meaning for the word based on the word parts.
4. Check the hypothesis against the context.

Teachers should teach these four steps explicitly, model them several times with various words, and provide students with time to practice them. In so doing, teachers can scaffold this process, gradually releasing the responsibility to the students (see Clark & Graves, 2005, for a thoughtful discussion of scaffolding in comprehension instruction).

Principle 3: Teach the Underlying Morphological Knowledge Needed in Two Ways—Both Explicitly and in Context

Although the ability to break words down into morphemes is best taught as a cognitive strategy, it also requires a certain amount of knowledge about language. Along with the four steps described above, this knowledge needs to be taught explicitly. There are three types of knowledge of language that students need to know to use morphology effectively:

Knowledge of Prefixes and Suffixes. Teachers can teach prefixes and suffixes in a variety of ways. Teachers should engage students in grouping words by prefix or suffix. They can then discuss what these words share in meaning or part of speech. In this way, students can articulate their own meanings of prefixes and suffixes. Providing a cumulative word wall with these prefixes and suffixes grouped by meaning will reinforce these lessons. Teachers can also develop students' word con-

sciousness by encouraging them to seek out and analyze new examples of word parts to add to the wall. Like other vocabulary items, learning prefixes and suffixes will require practice and reinforcement. Table 2 displays the 20 most common prefixes and suffixes, adapted from Blevins (2001). Students may know many of the high-frequency affixes but need to learn the low- and medium-frequency affixes.

Knowledge of How Words Get Transformed. Students should be taught the changes in sound and spelling that are often required to extract roots from derived words. To do so, teachers can group words by root to show how a single word can take many forms. This can expand students' written vocabulary by providing them with several forms for a known word. For instance, Kinsella (2002) and others have advised teachers to create a word chart that displays these various forms of key words selected from a text that students are reading. Table 3 displays an example of such a word chart, with words drawn by us from a from a newspaper article about current events. As with the word wall grouped by prefixes and suffixes, students can be engaged in finding and adding forms of these words themselves.

Knowledge of Roots. Students' abilities to extract roots from derived words can be a powerful strategy for acquiring new vocabulary, but only if students know the meanings of the roots. Although some roots are known to upper elementary students, it appears that others (such as *dense* and *fury*) may not be. Thus teachers need to teach a selected number of these roots as well. Clearly, this is a big task, given the huge number of roots that exist. As a starting point, teachers can teach some of the most common Latin and Greek roots (see). However, like other vocabulary words, these roots should be not be presented as a list to be memorized, but rather they should be taught in meaningful contexts when they are most useful for students to comprehend particular texts. For instance, many of these roots such as *therm* and *hydro* may be best suited to science lessons built around expository text. For other resources on teaching morphological knowledge, see Bear et al. (2000).

Table 2
Most Common Prefixes and Suffixes in Order of Frequency (adapted from Blevins, 2001)

Prefixes		
Highest frequency	High frequency	Medium frequency
un- (not, opposite of)	over- (too much)	trans- (across)
re- (again)	mis- (wrongly)	super- (above)
in-, im-, ir-, il- (not)	sub- (under)	semi- (half)
dis- (not, opposite of)	pre- (before)	anti- (against)
en-, em- (cause to)	inter- (between, among)	mid- (middle)
non- (not)		
under- (too little)		
in-, im- (in or into)		
Suffixes		
-s (plurals)	-ly (characteristic of)	-al, -ial (having characteristics of)
-ed (past tense)	-er, -or (person)	-y (characterized by)
-ing (present tense)	-ion, -tion (act, process)	-ness (state of, condition of)
	-ible, -able (can be done)	-ity, -ty (state of)
		-ment (action or process)
		-ic (having characteristics of)
		-ous, -eous, ious (possessing the qualities of)
		-en (made of)
		-ive, -ative, itive (adjective form of a noun)
		-ful (full of)
		-less (without)

Table 3
Sample Completed Word Form Chart With Words Drawn From a Newspaper Article

Noun	Adjective	Verb	Adverb
politics, politician	political		politically
strategy	strategic	strategize	strategically
provision	provisional	provide	provisionally
representation	representative	represent	
finance	financial	finance	financially
acceptance	(un)acceptable	accept	(un)acceptably

Principle 4: For Students With Developed Knowledge of Spanish, Teach Morphology in Relation to Cognate Instruction.

Teaching Spanish-speaking students to recognize and use cognates (words with similar spelling and meaning in two languages, such as *information* and *información*) has the potential to be a very powerful way for students to use their first language as an asset to improve their English reading comprehension. This strategy is particularly promising because many academic English words are similar in form and meaning to everyday Spanish words (e.g., *tranquil* is a rare, low-frequency English word while *tranquilo* is a common, frequently used Spanish word). But as with any technique or instructional strategy of promise, there are also pitfalls. Research suggests that this strategy may not work automatically for all students because students may lack proficiency in Spanish or may not have enough literacy in Spanish to recognize similarities in spelling (Nagy, García, Durgunoglu, & Hancin-Bhatt, 1993; Nagy & García, 1993). Even students with well-developed Spanish skills will need targeted instruction to learn how to recognize cognate relationships and use them to build reading comprehension in English.

One step to making cognate instruction effective is to teach the understanding of morphology in relation to teaching cognates. This is not difficult to do, given the prevalence of cognates among derived words (See the bold items in Table 1 for examples) and among Latin and Greek roots (virtually all of the roots in Table 4 have some cognate relationship with Spanish words). Teachers can further subdivide their word wall to have a section for cognates and encourage students to find them. Students can also be taught to use common suffixes that are themselves cognates (See italicized suffixes in Table 1 for examples). They can be taught to recognize the regular relationships between English and Spanish suffixes (*-idad* in Spanish almost always translates to *-ity* in English, as in *originalidad* and *originality*).

Putting It All Together to Build Meaning

As we have suggested, morphology is just one part of a comprehensive vocabulary and reading comprehension program for upper elementary students. However, it is important that we do not ignore such a potentially powerful tool to add to students' toolkits for extracting and constructing meaning from texts. As the insights of Brenda and Rafael reveal, this tool can be essential in our students' path toward becoming successful readers and writers.

Note. This research was supported by National Institute for Child Health and Human Development Grant 1 R03 HD049674-01 awarded to Nonie K. Lesaux, and in part by a Harvard Graduate School of Education Dean's Summer Fellowship awarded to Michael J. Kieffer. The authors wish to acknowledge the Spencer Foundation's support of Lesaux during the writing of this article.

Kieffer is a graduate student at Harvard University. He may be contacted there (Larsen

Table 4
Common Latin and Greek Roots (adapted from Blevins, 2001)

Root	Definition	Examples
	Common Latin roots	
Audi	Hear	Audience, auditorium, audible, audition
Dict	Speak	Dictate, predict, contradict, verdict, diction
Port	Carry	Import, export, portable, porter, transport
Rupt	Break	Abrupt, bankrupt, erupt, interrupt, rupture
Scrib/script	Write	Describe, inscribe, prescribe, scribe
Spect	See	Inspect, respect, spectacles, spectator
Struct	Build	Construct, destruct
Tract	Pull, drag	Attract, detract, contract, subtract
Vis	See	Visible, supervise, vision, visionary
	Common Greek roots	
Auto	Self	Automobile, automatic, autograph, autobiography
Bio	Life	Biography, biology, biodegradable, biome
Graph	Written or drawn	Graphic, telegraph, seismograph
Hydro	Water	Dehydrate, hydrant, hydrodynamic
Meter	Measure	Barometer, centimeter, diameter, thermometer
Ology	Study of	Geology, biology, archeology
Photo	Light	Photograph, photocopy, photosynthesis, photoelectric
Scope	See	Microscope, periscope, stethoscope, telescope
Tele	Distant	Telephone, telescope, telecast, telegram

303, 14 Appian Way, Harvard Graduate School of Education, Cambridge, MA 02138, USA). E-mail michael_kieffer@gse.harvard.edu. Lesaux teaches at the Harvard Graduate School of Education.

References

Anderson, R.C., & Freebody, P. (1981). Vocabulary knowledge. In Guthrie, J.T. (Ed.), *Comprehension and teaching: Research reviews* (pp. 77–117). Newark, DE: International Reading Association.

Anderson, R.C., & Nagy, W.E. (1992). The vocabulary conundrum. *American Educator, 16*(4), 14–18.

August, D., Carlo, M., Dressler, C., & Snow, C. (2005). The critical role of vocabulary development for English language learners. *Learning Disabilities Research and Practice, 20*, 50–57.

August, D., & Hakuta, K. (1997). *Improving schooling for language-minority children: A research agenda*. Washington, DC: National Academy Press.

Bear, D., Invernezzi, M., Templeton, S., & Johnston, F. (2000). *Words their way: Word study for phonics, vocabulary, and spelling instruction*. Columbus, OH: Merill/Macmillan.

Beck, I.L., McKeown, M.G., & Kucan, L. (2002). *Bringing words to life: Robust vocabulary instruction*. New York: Guilford.

Biancarosa, G., & Snow, C.E. (2004). *Reading next—A vision for action and research in middle and high school literacy: A report to Carnegie Corporation of New York*. Washington, DC: Alliance for Excellence in Education.

Blevins, W. (2001). *Teaching phonics and word study in the intermediate grades: A complete sourcebook*. New York: Scholastic.

Carlisle, J.F. (2000). Awareness of the structure and meaning of morphologically complex words: Impact on reading. *Reading and Writing: An Interdisciplinary Journal, 12*, 169–190.

Carlo, M.S., August, D., McLaughlin, B., Snow, C.E., Dressler, C., Lippman, D.N., et al. (2004). Closing the gap: Addressing the vocabulary needs of English-language learners in bilingual and mainstream classrooms. *Reading Research Quarterly, 39*, 188–215.

Cassidy, J., & Cassidy, D. (2005/2006, December/January). What's hot, what's not for 2006. *Reading Today, 23*, 1.

Chall, J.S. (1983). *Stages of reading development*. New York: McGraw Hill.

Chall, J.S., & Jacobs, V.A. (2003). Poor children's fourth-grade slump. *American Educator, 27*(1), 14–15, 44.

Clark, K.F., & Graves, M.F. (2005). Scaffolding students' comprehension of text. *The Reading Teacher, 58*, 570–580.

Cunningham, A.E., & Stanovich, K.E. (1991). Tracking the unique effects of print exposure in children: Associations with vocabulary, general knowledge, and spelling. *Journal of Educational Psychology, 83*, 264–274.

Freebody, P., & Anderson, R.C. (1983). Effects of vocabulary difficulty, text cohesion, and schema availability on reading comprehension. *Reading Research Quarterly, 18*, 277–294.

Freyd, P., & Baron, J. (1982). Individual differences in acquisition of derivational morphology. *Journal of Verbal Learning and Verbal Behavior, 21*, 282–295.

García, G.E. (1991). Factors influencing the English reading test performance of Spanish-speaking Hispanic children. *Reading Research Quarterly, 26*, 371–392.

Graves, M.F. (2006). *The vocabulary book: Learning and instruction.* New York: Teachers College Press.

Hart, B., & Risley, T.R. (1995). *Meaningful differences in the everyday experiences of young American children.* Baltimore: P.H. Brookes.

Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology, 80*, 437–447.

Kinsella, K. (2002, January 12). *Academic reading and writing scaffolds for underprepared secondary students.* Professional development workshop, Long Beach, CA.

Molfese, V.J., Modglin, A., & Molfese, D.L. (2003). The role of environment in the development of reading skills: A longitudinal study of preschool and school-age measures. *Journal of Learning Disabilities, 36*, 59–67.

Nagy, W.E., & Anderson, R.C. (1984). How many words are there in printed school English? *Reading Research Quarterly, 19*, 304–330.

Nagy, W.E., Berninger, V.W., & Abbott, R.D. (2006). Contributions of morphology beyond phonology to literacy outcomes of upper elementary and middle-school students. *Journal of Educational Psychology, 98*, 134–147.

Nagy, W.E., García, G.E., Durgunoglu, A.Y., & Hancin-Bhatt, B. (1993). Spanish-English bilingual students' use of cognates during reading. *Journal of Reading Behavior, 25*, 241–259.

National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.

Organization for Economic Co-operation and Development. (2000). *Literacy in the information age: Final report of the international adult literacy survey.* Paris: Author.

Proctor, C.P., August, D., Carlo, M., & Snow, C.E. (2005). Native Spanish-speaking children reading in English: Toward a model of comprehension. *Journal of Educational Psychology, 97*, 246–256.

RAND Reading Study Group. (2002). *Reading for understanding: Toward an R&D program in reading comprehension.* Santa Monica, CA: RAND.

Rupley, W.H., Logan, J.W., & Nichols, W.D. (1998/1999). Vocabulary instruction in a balanced reading program. *The Reading Teacher, 52*, 336–346.

Stahl, S.A. (1999). *Vocabulary development.* Cambridge, MA: Brookline Books.

Stahl, S.A., & Fairbanks, M.M. (1986). The effects of vocabulary instruction: A model-based meta-analysis. *Review of Educational Research, 56*, 72–110.

Stahl, S.A., & Nagy, W.E. (2006). *Teaching word meanings.* Mahwah, NJ: Erlbaum.

Stanovich, K.E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly, 21*, 360–407.

Tyler, A., & Nagy, W.E. (1989). The acquisition of English derivational morphology. *Journal of Memory and Language, 28*, 649–667.

Lesson Link

Lesson plans related to vocabulary teaching can be found at

Flip-a-Chip: Examining Affixes and Roots to Build Vocabulary

Rooting out Meaning: Morpheme Match-Ups in the Primary Grades

Effective Academic Vocabulary Instruction in the Urban Middle School

Joan G. Kelley, Nonie K. Lesaux, Michael J. Kieffer, S. Elisabeth Faller

To ensure that students enter high school able to handle sophisticated texts, academic vocabulary instruction should be incorporated into standard practice to improve language skills and consequently boost reading comprehension for struggling readers.

In urban middle schools across the United States, large numbers of struggling readers walk into classrooms every day. These students, many of whom are learning English as a second language (ESL) and/or come from low-income backgrounds, are hard to reach and even harder to teach through no fault of their own. They enter school with more limited vocabulary knowledge than their middle-income and native English-speaking counterparts (e.g., Cobo-Lewis, Pearson, Eilers, & Umbel, 2002; Hart & Risley, 1995) and fall further behind in vocabulary and reading as they move through school (Kieffer, 2008; Nakamoto, Lindsey, & Manis, 2007).

Research in urban middle schools has found that academic vocabulary, the specialized and sophisticated language of text, is a particular source of difficulty for students who struggle with comprehension. For instance, in a study conducted in seven urban middle schools, Lesaux and Kieffer (2010) found that the struggling readers—language-minority (LM) learners and native English speakers alike—had generally good foundational skills for word reading but tended to be "word callers." Word callers are students who read print (some fluently) without understanding deeply what they read. A second study conducted in the same district showed that a group of Spanish-speaking LM learners, enrolled in these schools since the primary grades and followed from fourth grade into middle school, had good word reading skills but vocabulary and reading comprehension scores around the 20th percentile (Crosson & Lesaux, 2010; Kieffer & Lesaux, 2007; Lesaux & Kieffer, 2010).

Although research has shown that gaps in reading performance are often associated with gaps in vocabulary knowledge, attention to developing language is not occurring in most schools (e.g., Scott, Jamieson-Noel, & Asselin, 2003; Watts, 1995). Most middle school English language arts (ELA) programs emphasize literary analysis over direct instruction in comprehension strategies. For many of these learners, what is missing from class work is direct instruction focused on academic vocabulary that will support them as they read expository texts in their academic future.

Designing and Evaluating an Academic Vocabulary Program

The Partnership With an Urban District: Finding Locally Effective Solutions

To address the needs of struggling readers, including LM students and their native English-speaking classmates, and fill the gap in vocabulary instruction, we developed and evaluated an academic language program in partnership with an urban school district characterized by linguistic and socioeconomic diversity. Our goal was to determine if regular, systematic

The Reading Teacher, *64*(1), pp. 4–13
DOI:10.1598/RT.64.1.1
© 2010 International Reading Association
ISSN: 0034-0561 print / 1936-2714 online

instruction in academic vocabulary in mainstream classrooms could be effective in boosting students' reading comprehension skills.

The majority of the district's middle schools are made up of large, heterogeneous classes. Typical of diverse urban schools, the mainstream classrooms (not beginner ESL classrooms or advanced seminars) we targeted for this instructional work included approximately 70% LM learners, and the average students were reading below grade level as they entered sixth grade.

What Did the Research Tell Us About Designing Effective Vocabulary Instruction?

In the planning stages, we turned to relevant research for guidance, which has identified three guiding principles for teaching vocabulary. First, because truly knowing all levels and meanings of a word is a complex process, there is a growing consensus that vocabulary instruction should focus on deeply understanding a relatively small number of words, their elements, and related words in rich contexts (e.g., Graves, 2000, 2006; Stahl & Nagy, 2006). This contrasts with the more common practice of teaching a large number of words per week from a list or workbook, a practice that results in relatively shallow knowledge that is rarely maintained for long.

Second, research (Beck, McKeown, & Kucan, 2002; Graves, 2000, 2006; Stahl & Nagy, 2006) suggested choosing these words carefully, making sure they are high utility in nature. Spending precious instructional time on the deep learning of general-purpose academic words (e.g., *analyze*, *frequent*, *abstract*), or "delivery words"—those that deliver the content to the reader (Nair, 2007)—is more valuable than targeting the low-frequency and relatively unimportant words (e.g., *refuge*, *burrow*) highlighted in bold in many textbooks (Hiebert, 2005). Word selection is especially important when teaching students with low vocabularies; they need to know the delivery words deeply to access the content-specific words they encounter in texts. Although this academic vocabulary is different from conversational language and essential for academic success, surprisingly, it is infrequently taught in schools.

Finally, the third principle tells us to balance direct teaching of words with teaching word-learning strategies. With instruction such as using contextual cues (Fukkink & de Glopper, 1998; Swanborn & de Glopper, 1999) and using one's morphological awareness skills (Kieffer & Lesaux, 2007; Nagy, Berninger, & Abbott, 2006), students gain the cognitive tools they need to learn a large number of words independently.

What Kind of Curriculum Did We Develop?

Based on the principles described previously, and with our target classrooms in mind, we developed an 18-week academic vocabulary program for sixth graders, featuring 8 two-week units and two review weeks. Each unit consists of an eight-day lesson cycle, and each lesson is designed to be 45 minutes, with lessons delivered four days per week. Every unit revolves around a short piece of engaging informational text from *Time for Kids* magazine, to which the participating school district subscribes.

We selected specific texts on the basis of several criteria: the potential for student engagement, readability at the fourth- to sixth-grade instructional level, length, and the specific vocabulary used. Several of the texts feature topics salient to adolescent youth culture, such as single-gender classrooms and television viewing rates, whereas others address issues of diversity, such as how different ethnic groups in Africa learn to get along.

From each text, we chose eight or nine high-utility academic words that also appear on Coxhead's (2000) academic word list. Exposures to each word varied across the days of each unit, but every word was used on three days between two and five times, and subgroups of those words were used each of the eight unit days. Across the program, 11 words were used in two units, which increased the number of exposures for these repeated words.

Given the research on how infrequently focused vocabulary teaching takes place in a K–12 classroom (Durkin, 1978; Scott et al., 2003; Watts, 1995), and as a result of our meetings with teachers and district leaders, we focused on building teacher capacity around the how and why of daily vocabulary instruction while maintaining a commitment to a program that would be as clear and easy to implement as possible. To support teachers throughout the 18 weeks, a former teacher served as a program specialist, observing the program instruction in classrooms and regularly meeting with teachers to answer questions about the curriculum.

Once developed and ready for use in the middle schools, we designed a study to find out if it worked for students *and* for teachers.

What Was the Design of the Evaluation and Who Participated?

In each of the seven participating schools, the principals selected ELA teachers based on their students' profiles and classroom achievement, and then among those teachers, 12 voluntarily chose to try the vocabulary program. Students' achievement in the classrooms using the vocabulary program was compared with those of seven other teachers who continued to use the standard district curriculum. The teachers' backgrounds ranged from first-year teachers to retiring veteran teachers and were comparable across the two groups. In addition, based on extensive systematic observation, we found that the two groups of teachers were comparable on overall quality of teaching and general classroom practices outside of the intervention (Lesaux, Kieffer, Faller, & Kelley, 2010).

Sedi officatatio etur accupici nis est ma si apit labo. Nem eatiis re, sum sam faccus.

—*P. OsleidjvllAccusam et*

The student participants included 476 sixth graders, of whom 346 were LM learners and 130 were native English speakers. The participating schools served an ethnically diverse and primarily low-income student population, averaging 67% students of color, with some schools as high as 96%, and 58% students receiving free or reduced-price lunch, with some schools at 100%. Before implementing the program, the average student's scores on the Gates-MacGinitie reading comprehension test and SAT-10 reading vocabulary test were at about the 35th percentile. The characteristics of the treatment and control classrooms (e.g., student achievement, student demographics) were an approximate match.

We investigated the curriculum's effects on students' vocabulary and reading comprehension skills by administering assessments to students before and after they received the curriculum. We studied implementation two ways: Teachers completed weekly logs, and we conducted between five and seven observations in each classroom over the course of the 18 weeks.

What Did We Find?

To begin, we found that fidelity of implementation of the curriculum was good. An average of the weekly logs and the ratings of the observations suggested that about 80% of the curriculum was implemented as designed and with high quality; teachers spent an average of 52 minutes on the daily lesson, very close to the designed 45 minutes. In addition, as we described in more detail in *Reading Research Quarterly* (Lesaux et al., 2010), when we compared the instructional outcomes in classrooms using this curriculum to standard practice in the sixth-grade mainstream ELA classrooms studied, we found that the 18 weeks of designed academic vocabulary instruction resulted in greater gains on standardized and researcher-developed measures of vocabulary, word learning (e.g., morphological ability), and reading comprehension.

Specifically, we found that the students in treatment classrooms had significantly better results on a multiple-choice test of academic words, a curriculum-based measure of deep knowledge of the words taught, and a test of students' ability to break down words into parts (i.e., morphological awareness). One participating student noted, "I felt more comfortable with the words [at the end of the vocabulary program], and I knew them better and how to use them. Maybe before I only knew part of the definitions, but now I know them and use them."

Of critical note was the vastly different amount of attention given to vocabulary in the control classrooms. In these rooms, observers classified only approximately 10% of instructional time as vocabulary teaching, with an emphasis on incidental and superficial instruction that focused on rare, unfamiliar words (e.g., *cannibal*, *azure*, *slurp*) and provided a single definition or example for a given word without time for processing or practice with the meaning. The majority of instructional time in control classrooms focused on literary analysis, and only approximately 10% of time was focused on instruction in reading comprehension skills.

Especially promising for students' long-term academic success, we found that the program helped those in the treatment classrooms comprehend passages that included words we had taught. We also found that these students showed more improvement on the Gates-MacGinitie reading comprehension test than students in the control classrooms, and

this effect was equal to about eight to nine months of extra growth in reading comprehension (see Lesaux et al., 2010, for more details on these assessments and statistical values). Analyses also showed that the curriculum was equally beneficial for LM and native English-speaking learners.

Our observations in the treatment classrooms, interviews with teachers, and focus groups with students confirmed and provided more depth to our findings. Overall, treatment teachers were better than control teachers at providing students with multiple opportunities to use words, posting visual resources for learning words, affirming correct use of words, using personal anecdotes to give examples for words, supporting students' writing, and facilitating student talk. Our end-of-curriculum interviews with teachers indicated that the curriculum helped them increase their facility with teaching vocabulary and building language. For example, one teacher wrote in her daily log, "OK, to be honest, I always get affect and effect mixed up. This lesson actually helped me with it. I explained it to [another teacher] also. Thanks."

That said, it wasn't necessarily an easy or smooth transition to this type of vocabulary instruction that revolves around a text. Teachers cited students' lack of subject area background, minimal prior practice (e.g., answering questions from text), and weaknesses in general literacy skills as challenges to taking up the work with ease. A participating teacher's log entry described the kinds of challenges faced in the classroom: "Many [students] are stuck on their prior understanding of *welfare* as a check for poor people (a concrete noun) and had a hard time getting that the original meaning is about their well-being (an abstract noun, and thus a harder concept)." When deep word understanding is the goal, students need instruction, discussion, and lots of practice.

Many teachers reported responding to these early challenges by modeling additional examples and providing requisite information. Despite the extra time and effort required of instructors and students alike, however, teachers believed that the program's rigor encouraged student growth. As one teacher explained, although the expectations were high, her students eventually met them. In particular, although writing activities took a long time to complete, teachers believed that the organizational support built into the program's writing days was helpful for students for completing each unit's required paragraph and resulted in increased writing competence by the final units. We describe the key issues related to the writing instruction in the subsequent section.

Our findings take many forms and dimensions, telling us not just about the effects of the program itself, but perhaps more importantly, also shedding light on practices to strengthen and improve vocabulary instruction in classrooms, particularly those with high numbers of LM learners who struggle to comprehend text. In the next section, we describe what our findings mean for classroom practice in similar schools across the United States.

Specific Program Elements and Universal Learnings: What Does This Mean for the Middle School Classroom?

The findings show promise in developing effective, multifaceted vocabulary instruction for implementation by ELA teachers in middle school classrooms with high numbers of LM learners. Of utmost importance for reading professionals is that the principles and activities at the core of the program, based on specific practice recommendations gleamed from research (including but not limited to our own), theory, and the basic tenets of good literacy teaching, can be re-created in anyone's classroom. To incorporate our learnings into instruction, we recommend the following plan.

Start With a Short Piece of Engaging Text.

To promote deep word understanding, instruction has to begin with good conversation about rich topics and ideas. However, the discussion must be anchored in text to promote literacy and encourage the use of academic vocabulary over conversational language. We need to support students as they read texts that discuss subjects of interest and are at, or just above, their reading ability. Struggling readers especially need to be set up to succeed with texts so that they increase their skills and their confidence. Short texts are easier to reread and revisit, and work best to reduce the overwhelming feeling that struggling readers have when they approach a long piece of text.

What Did the Instruction Look Like? We selected specific texts on the basis of several criteria: the potential for student engagement, readability at

the fourth- to sixth-grade instructional level, length, and the specific vocabulary used in the text. In the evaluation, teachers and students clearly indicated that texts that related to the students' lives (e.g., children's television viewing rates, Internet bullying, single-gender classrooms) were better received and ultimately more successful in engaging students. As one treatment teacher's log illustrated, the texts often inspired both new thinking and the sharing of these new ideas: "All students were against single-gender classes at the beginning of the lesson, a sign, I think, that they hadn't given the issue much thought. After discussion and reading the article, about half (mostly girls) were able to see some of the benefits." The program's instruction encouraged engagement and response, especially when the students felt personally connected to the text's subject.

What Does This Mean for All Classrooms? Use classroom sets of accessible and engaging magazine articles, newspaper stories, letters to the editor and op-ed columns, and other short, appropriately leveled texts that will not overwhelm reluctant readers. When possible, choose texts that feature topics salient to adolescent youth culture. Students need to be motivated to read, and supported in their reading, to access what is chosen for them in class.

Less Is More, so Focus on Depth Over Breadth.

We can't possibly cover and teach all of the words that students need to learn, but we can choose a small set of high-utility academic words students need and then use those as a platform for teaching word learning, increasing academic talk, and promoting more strategic reading. Students and teachers need to learn how to think about language and how words work. The learning process is key and takes time. Instruction on a multitude of words within a lengthy text will not be as effective or rewarding as digging deeply into a short but substantive text and focusing on a thorough understanding of fewer high-utility words.

What Did the Instruction Look Like? In addition to using a short piece of informational text, we limited the number of words studied and chose words used frequently in middle and high school textbooks. As previously noted, eight or nine academic words were the focus of each unit, which moved through oral and written vocabulary instructional activities that promote academic development in reading, writing, and speaking. This allowed for additional instruction and practice, working on word knowledge from several angles and through several media. A less-is-more design carved out class time for focusing on breadth of word knowledge and increasing understanding and interest in words.

What Does This Mean for All Classrooms? Limit the number of words you teach, choose high-utility academic words, and take twice as long to teach those words (e.g., nine words over two weeks). Your goal should be to help the students attain the deep understanding that Beck and McKeown (1991) described as truly knowing a word: "a rich, decontextualized knowledge of each word's meaning, including its relationship to other words, and its extension to metaphorical use" (p. 19).

Students often think they know words that they actually do not know deeply. As one teacher reported, "In my class, many kids think they already know the definitions of words, but are actually confusing them (i.e., *motive* and *incentive*)." Encouraging students to use a dictionary is not the best way to help them find definitional clarification, however. While students are often told to look up unknown words in the dictionary, research has told us that dictionary definitions are inaccessible to most students (Marzano, 2004; Scott & Nagy, 1997). Struggling readers especially need lots of relevant examples and explanations that use familiar language, yet dictionaries are organized with abbreviated definitions to conserve space and fit as many entries as possible (Feldman & Kinsella, 2005)Instead of using dictionaries as the sole source for word information, allow students to hear and practice using the target words in many contexts, in their speech *and* writing, so that they can grapple with shades of meaning and better understand all the ways that the words can be used. As a rule, students are not given an opportunity to delve deeply into words' meanings, yet there is obvious satisfaction when they finally feel ownership of a word. As one student noted, "The thing is, [in school] you read the definition and you know the sounds of the word and you can memorize the spelling, but with this vocabulary program, you read it, know how it's used, hear it, do all the things that we do with it, then put them together and you know *exactly* what it means." Classroom vocabulary instruction must begin with academic words and go beyond the study of superficial meanings.

Increase Opportunities to Talk.

Language is social, and so are kids. To promote deep understanding, teachers need to structure ways for students to hear more academic language used, hear words analyzed in a fun way, and practice using academic words. Research has confirmed that language and metacognitive development are improved through peer interaction (see August & Hakuta, 1997; Ellis, 1994; McLaughlin, 1985); therefore, vocabulary instruction should include collaborative learning activities. Structured discussions boost the chance that students will own the new words that they are introduced to in class and will encounter in their reading.

What Did the Instruction Look Like? A whole-class text discussion at the beginning of each unit set the stage for a language-filled unit. We designed this structured conversation to give teachers the opportunity to elaborate on the ideas presented while supporting students as they broaden their awareness of the concepts.

As noted earlier, to ensure that the class conversations were authentic, and therefore more meaningful to the students (i.e., more effective learning results), the subject matter was chosen for its potential to engage 11- and 12-year-olds. We knew that if the students cared about the subject, we would have our best chance at attaching them to the concepts and encouraging them to talk using the target words. Indeed, teacher log comments included references to animated discussions. One teacher wrote,

> My kids had a heated verbal discussion on the word *period*. I shared one sentence a student used: "Mrs. M kept us longer in the *period* than usual." Another student argued that the word *period* was not used correctly. The rest of the students set him straight that it was indeed consistent with the definitions. Interesting, what a long way they have come.

Activities throughout the eight-day cycle encouraged student talk, including partner discussions before answering text questions, mock interviews in which students assumed characters and asked each other questions containing target words, whole-class discussions to create personal target word definitions, and pair-shares used regularly.

What Does This Mean for All Classrooms? Increase language in the classroom. Across the United States, teachers talk more than their students (Cazden, 1988; Flanders, 1970; Heath, 1978; Seiler, Schuelke, & Lieb-Brilhart, 1984; Snow, Tabors, & Dickinson, 2001).

However, if we are going to close achievement gaps and develop students' critical thinking and oral- and written-language skills, we need to provide students with significant opportunities to speak and write. Incorporate structured opportunities for student talk into the classroom culture. Repeat targeted vocabulary words in different contexts (e.g., types of texts, oral, graphics). Help students attach to the meanings of words by using target words in speech to describe a personal event or an opinion. There is greater likelihood that students will internalize the new academic vocabulary and add the words to their lexicons if they are set up to use them in class, producing them orally and in their writing.

Teach Specific Strategies for Word Learning.

Students need to be directly instructed on how to figure out unfamiliar words, as they are constantly coming up against unfamiliar words in texts. Students could skip new words repeatedly, and potentially lose overall meaning, or be more constructive and pull the words apart, dig deeply enough to find a helpful context clue, think of a related word that looks the same, or think about when they heard the word prior to this reading.

What students do at these crossroads will be determined by the strategies they have in place. Yet, what emerged from the observations of control classrooms is that only 10% of instructional time is spent on teaching vocabulary or word analysis as part of standard practice, despite the fact that knowing how to break words down into component parts is one of the essential strategies for figuring out unknown words. In order for students to be better able to work through more challenging texts, they need direct and explicit teaching of word-learning strategies regularly and frequent review of these strategies.

What Did the Instruction Look Like? Midunit in the lesson cycle, the focus shifted from the teaching of target word meanings to learning how words work in order to better support students when they encounter unfamiliar words as they read. One day per unit was devoted to morphology, direct instruction on how affixes change base words into a variety of word forms. For example, students were taught how the suffix *-tion* changes verbs into nouns (e.g., *act, action*) or how the *-al* suffix changes nouns into adjectives (e.g.,

topic, *topical*). When reviewing the suffixes *-ify* and *-er*, students worked together on an activity that asked them to come up with definitions for nonsense words ending in these suffixes (e.g., *nerdify*, *Facebooker*).

Teachers commented often on how much the morphology lessons and practice helped their students and forced them to think differently about word parts. One teacher wrote, "I like that we are going into the different forms of the words. This is very helpful. The kids were excited when they started to realize the connection. 'Oh, so when you say *revise* and then talk about *revisions*....'" Another participating teacher explained,

> Students were interested in the *-er/-or* morphology lesson and tried thinking about words they knew or silly words like "pigger—a person who takes care of pigs." Using the target words in a sentence helped them make more sense of the words and how the suffix changes the meaning of the word.

As these log entries demonstrate, the morphology instruction helped students focus on word parts and finding familiar patterns in unfamiliar words, all in an effort to help students make sense of the way words work and improve understanding.

What Does This Mean for All Classrooms? Again and again, teachers told us that there is no built-in time or standard practice for deep word study in the middle school ELA classroom, and our observations in control classrooms confirmed the scarcity of vocabulary and word study opportunities. Our findings indicate that teachers should carve out regular blocks of class time to be used in the systematic instruction of morphology: Teach students about suffixes and prefixes and have them make charts that show that, by adding affixes, words can change form and part of speech. Have students revisit text and highlight any words that contain the suffix being studied. Given opportunities to practice using the different forms of words in different contexts, students will increase their understanding of how words work and have strategies in their toolkit for when they encounter unfamiliar words, especially while reading independently.

Incorporate Activities to Promote Word Consciousness.

To exponentially increase vocabulary, students need to develop word consciousness and a curiosity about words. Through playing with and talking about words, students are more likely to become attached to the words in print and willing to work harder to understand unknown words they encounter.

What Did the Instruction Look Like? From the first day of the first unit, the teachers were encouraged to talk about target words intentionally and ignite student interest in words in general. Across each unit, for example, students took part in a number of fun word tasks, such as a word hunt contest, writing down target words heard outside of the classroom (McKeown, Beck, Omanson, & Pople, 1985), sharing those words orally, and posting them on a classroom word wall. Additionally, students searched for word errors in a paragraph and figured out nonsense compound words by looking closely at the two words within each compound. From the early whole-class discussion about definitions for each word to the instruction on multiple meanings, the instruction fostered word consciousness and encouraged a more general interest in word analysis.

What Does This Mean for All Classrooms? Talk about interesting words that you encounter or different uses of words that have been studied in class. Call your students' attention to words used incorrectly in the newspaper or by someone on television. Have students find words with similar roots, suffixes, or prefixes in magazine articles. Add board or card word games (many good commercially made games and websites with word games are available) to class vocabulary lessons to increase word play, heighten word awareness, and ultimately improve access to unfamiliar words. Use crossword puzzles, for example, to focus students automatically on individual words and their meanings. During transition times, play word games orally to keep classroom language levels and word interest high.

By infusing all that you do with talk of words and word play, you will help students become metacognitive about language and curious about how words work. Through increased attention to words, students will start to see similarities and realize that they can find recognizable word parts in unfamiliar words and thereby gain understanding.

The Writing Process Is a Powerful Vehicle for Vocabulary Development.

When students can accurately use new vocabulary in writing, clearly they have a sound understanding of the word's definition and usage. Our findings indicate

that many middle school students need a structured approach to writing assignments to successfully respond to writing prompts or text questions. For writing samples to assess and promote vocabulary knowledge, students need to be scaffolded as they generate and organize their ideas, incorporate the target words, and/or move from notes to a flowing paragraph.

What Did the Instruction Look Like? At the end of each unit, as a result of a writing instructional routine, students wrote a paragraph using five target words. Each stage of the writing routine was heavily supported, and gradually students began to own more of the process. The majority of teachers reported that they felt student confidence increased and writing ability grew over the course of the 18 weeks. Teachers appreciated that the routine was modeled regularly and practiced during each unit. They cited the paragraphs produced as useful assessment tools, indicating whether students fully understood the target words that they chose to include.

What Does This Mean for All Classrooms? Overall, teachers in our study agreed that writing a paragraph is a difficult exercise for sixth graders. In fact, writing days were demanding for teachers and students alike, and assignments took time. To successfully take on the tough job of writing expository text, therefore, students need concrete steps provided for them. They also need practice, since most do not practice writing often enough. Teachers are advised to develop set writing routines, build writing practice into each week's lessons, keep track of how much writing each student produces each week, and set high goals for output.

Good prewriting work begins with teacher direction and modeling, and encourages structured academic talk as students generate and/or organize ideas with the help of a classmate. At the next stage, students need some kind of support to move to written organization, such as a graphic organizer, and then additional support as they work to incorporate the sentences they wrote in boxes on a graphic organizer into a flowing paragraph with transitional words and phrases.

Remember the Importance of Personal Connections.

It was strikingly clear to us that students were more attached to the school material when there was a personal connection made to either the material itself or the teacher. To keep students motivated and engaged, and therefore learning continually, teachers should try to personalize examples given in class and choose substantive materials that will be of particular interest to early adolescent students.

What Did the Instruction Look Like? Throughout the program, teachers were encouraged to make personal connections to discuss and review target words. They talked about an incident that happened to them that morning, described their community or the complex they live in, or discussed how they identified with bullied students read about in a chosen text.

What Does This Mean for All Classrooms? We know that students need systematic, planned literacy instruction featuring language and vocabulary, but to maximize student attachment and vocabulary growth, students need to be personally connected. Texts and topics should reflect the students' world when possible, and teachers should take every opportunity to use target words, for example, including them while sharing a personal anecdote related to the instruction. Students will be more likely to attend to what teachers are saying and attach to vocabulary words when they are worked into middle school topics, woven into personal stories, and repeated regularly in many contexts.

Conclusion

To ensure that our students will enter high school able to handle sophisticated texts, we need to prepare them during the middle years; academic vocabulary instruction should be incorporated into standard practice to improve language skills and consequently boost reading comprehension for struggling readers. This instruction should target high-utility academic words; teach a small number of these words in depth; anchor the words in engaging text; incorporate multiple, planned exposures to each word; and balance direct instruction in word meanings with teaching word-learning strategies. For ease of implementation, as in all academic domains, any vocabulary instruction should be designed in a manner that makes delivering the instruction easy and clear for teachers, as well as structured and supported for students.

Given the enormity of the word-learning task, no teacher or curriculum can teach or expose students to the thousands of unknown words they will need to

know to succeed academically. If our goal is to help students improve understanding of academic text, then words need to be pulled apart, put together, defined informally, practiced in speech, explained in writing, and played with regularly; only then will students have a chance at deeply understanding the approximately 50,000 words (Stahl & Nagy, 2006) they need to know before they graduate. Equipped with more knowledge *of* and *about* words, students will be set up for success in high school and beyond.

Notes

This research was supported by grants awarded to Nonie K. Lesaux by the William T. Grant Foundation and the William and Flora Hewlett Foundation. The authors would like to thank Carol Barry, Teresa Walter, Jennifer Cheatham, Amy Griffiths, Phoebe Sloane, Cara Wells, Tisha Ruibal, Sean Preci, Greta Castaneda, Armida Lizarraga, and Julie Russ for their instrumental roles in carrying out the study. The authors would also like to thank David J. Francis for his insights and Caren Firger for her feedback on program implementation. Most important, the authors thank the participating principals, teachers, and students.

References

August, D., & Hakuta, K.E. (Eds.). (1997). *Improving schooling for language-minority children: A research agenda*. Washington, DC: National Academy Press.

Beck, I.L., & McKeown, M.G. (1991). Conditions of vocabulary acquisition. In R. Barr, M.L. Kamil, P.B. Mosenthal, & P.D. Pearson (Eds.), *Handbook of reading research* (Vol. 2, pp. 789–814). New York: Longman.

Beck, I.L., McKeown, M.G., & Kucan, L. (2002). *Bringing words to life: Robust vocabulary instruction*. New York: Guilford.

Cazden, C.B. (1988). *Classroom discourse: The language of teaching and learning*. Portsmouth, NH: Heinemann.

Cobo-Lewis, A.B., Pearson, B.Z., Eilers, R.E., & Umbel, V.C. (2002). Effects of bilingualism and bilingual education on oral and written Spanish skills: A multifactor study of standardized test outcomes. In D.K. Oller & R.E. Eilers (Eds.), *Child language and child development: Vol. 2. Language and literacy in bilingual children* (pp. 98–117). Tonawonda, NY: Multilingual Matters.

Coxhead, A. (2000). A new academic word list. *TESOL Quarterly, 34*(2), 213–238.

Crosson, A.C., & Lesaux, N.K. (2010). Revisiting assumptions about the relationship of fluent reading to comprehension: Spanish-speakers' text-reading fluency in English. *Reading and Writing, 23*(5), 475–494. doi:10.1007/s11145-009-9168-8

Durkin, D. (1978). What classroom observations reveal about reading comprehension instruction. *Reading Research Quarterly, 14*(4), 481–533. doi:10.1598/RRQ.14.4.2

Ellis, R. (1994). *The study of second language acquisition*. New York: Oxford University Press.

Feldman, K., & Kinsella, K. (2005). *Narrowing the language gap: The case for explicit vocabulary instruction*. New York: Scholastic.

Flanders, N.A. (1970). *Analyzing teaching behavior*. Reading, MA: Addison-Wesley.

Fukkink, R.G., & de Glopper, K. (1998). Effects of instruction in deriving word meaning from context: A meta-analysis. *Review of Educational Research, 68*(4), 450–469.

Graves, M.F. (2000). A vocabulary program to complement and bolster a middle-grade comprehension program. In B.M. Taylor, M.F. Graves, & P. van den Broek (Eds.), *Reading for meaning: Fostering comprehension in the middle grades* (pp. 116–135).

Take ACTION!

Incorporating this kind of vocabulary teaching into your classroom will most likely require a personal paradigm shift on two fronts.

First, increase the quality and quantity of language in your classroom with the following tips:

- Cut out newspaper headlines or captions to share interesting words with students at the beginning of class.
- Start a conversation about a big idea that you learned of from the radio or newspaper.
- Choose to use a higher level word in place of a word you commonly use in class (e.g., "I'd like Sammy to distribute the papers, that is, pass one out to each person.")
- When appropriate, call attention to the morphology of a word you use in speech (e.g., "Now that we raised the money, we need a *communal* decision about where the donation should be made. Do you know a word that sounds like *communal*?")

Second, regarding the direct instruction of vocabulary, teach a limited number of words over an extended period of time, using speech and writing.

- Cut half the words from your vocabulary list and get the kids to dig deeply on the other half.
- Do not give students long lists of unknown words to look up in isolation. Start your vocabulary study by having students think-pair-share about what they already know about each word. Then, as a class, come up with accurate definitions. Show students how everyone grapples with shades of meaning and help them get invested in the process of understanding a word fully.
- When possible, choose words from the text you are using that students will encounter across their academic subjects (e.g., *effect, integrate, interpret, function, structure*; see Coxhead [2000] or Marzano [2004]).

New York: Teachers College Press; Newark, DE: International Reading Association.

Graves, M.F. (2006). *The vocabulary book: Learning and instruction.* New York: Teachers College Press; Newark, DE: International Reading Association; Urbana, IL: National Council of Teachers of English.

Hart, B., & Risley, T.R. (1995). *Meaningful differences in the everyday experience of young American children.* Baltimore: Paul H. Brookes.

Heath, S.B. (1978). *Teacher talk: Language in the classroom.* Arlington, VA: Center for Applied Linguistics.

Hiebert, E.H. (2005). In pursuit of an effective, efficient vocabulary curriculum for elementary students. In E.H. Hiebert & M.L. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice* (pp. 243–263). Mahwah, NJ: Erlbaum.

Kieffer, M.J. (2008). Catching up or falling behind? Initial English proficiency, concentrated poverty, and the reading growth of language minority learners in the United States. *Journal of Educational Psychology, 100*(4), 851–868. doi:10.1037/0022-0663.100.4.851

Kieffer, M.J., & Lesaux, N.K. (2007). Breaking down words to build meaning: Morphology, vocabulary, and reading comprehension in the urban classroom. *The Reading Teacher, 61*(2), 134–144. doi:10.1598/RT.61.2.3

Lesaux, N.K., & Kieffer, M.J. (2010). Exploring sources of reading comprehension difficulties among language minority learners and their classmates in early adolescence. *American Educational Research Journal.* Available: aer.sagepub.com/cgi/content/abstract/0002831209355469v1

Lesaux, N.K., Kieffer, M.J., Faller, S.E., & Kelley, J.G. (2010). The effectiveness and ease of implementation of an academic vocabulary intervention for linguistically diverse students in urban middle schools. *Reading Research Quarterly, 45*(2), 196–228. doi:10.1598/RRQ.45.2.Marzano, R.J. (2004). *Building background knowledge for academic achievement: Research on what works in schools.* Alexandria, VA: Association for Supervision and Curriculum Development.

McKeown, M.G., Beck, I.L., Omanson, R.C., & Pople, M.T. (1985). Some effects of the nature and frequency of vocabulary instruction on the knowledge and use of words. *Reading Research Quarterly, 20*(5), 522–535. doi:10.2307/747940

McLaughlin, B. (1985). *Second-language acquisition in childhood: Vol. 2. School-age children* (2nd ed.).Hillsdale, NJ: Erlbaum.

Nagy, W.E., Berninger, V.W., & Abbott, R.D. (2006). Contributions of morphology beyond phonology to literacy outcomes of upper elementary and middle-school students. *Journal of Educational Psychology, 98*(1), 134–147. doi:10.1037/0022-0663.98.1.134

Nair, M. (2007). *An analysis of the words appearing in middle school textbooks.* Unpublished doctoral dissertation, Harvard University, Cambridge, MA.

Nakamoto, J., Lindsey, K.A., & Manis, F.R. (2007). A longitudinal analysis of English language learners' word decoding and reading comprehension. *Reading and Writing, 20*(7), 691–719. doi:10.1007/s11145-006-9045-7

Scott, J.A., Jamieson-Noel, D., & Asselin, M. (2003). Vocabulary instruction throughout the day in twenty-three Canadian upper-elementary classrooms. *The Elementary School Journal, 103*(3), 269–283. doi:10.1086/499726

Scott, J.A., & Nagy, W.E. (1997). Understanding the definitions of unfamiliar verbs. *Reading Research Quarterly, 32*(2), 184–200. doi:10.1598/RRQ.32.2.4

Seiler, W.J., Schuelke, L.D., & Lieb-Brilhart, B. (1984). *Communication for the contemporary classroom.* New York: Holt, Rinehart and Winston.

Snow, C.E., Tabors, P.O., & Dickinson, D.K. (2001). Language development in the preschool years. In D.K. Dickinson & P.O. Tabors (Eds.), *Beginning literacy with language: Young children learning at home and school* (pp. 1–25). Baltimore: Paul H. Brookes.

Stahl, S.A., & Nagy, W.E. (2006). *Teaching word meanings.* Mahwah, NJ: Erlbaum.

Swanborn, M.S.L., & de Glopper, K. (1999). Incidental word learning while reading: A meta-analysis. *Review of Educational Research, 69*(3), 261–285.

Watts, S.M. (1995). Vocabulary instruction during reading lessons in six classrooms. *Journal of Reading Behavior, 27*(3), 399–424.

Kelley is a member of the Language Diversity and Literacy Development Research Group at the Harvard Graduate School of Education, Cambridge, Massachusetts, USA; e-mail joangkelley@gmail.com. Lesaux teaches at the Harvard Graduate School of Education; e-mail lesauxno@gse.harvard.edu. Kieffer teaches at Teachers College, Columbia University, New York, New York, USA; e-mail mk3157@columbia.edu. Faller is a doctoral student at the Harvard Graduate School of Education; e-mail sef416@mail.harvard.edu.

MORE TO EXPLORE

ReadWriteThink.org Lesson Plan

- "Flip-a-Chip: Examining Affixes and Roots to Build Vocabulary" by Lee Mountain

IRA Books

- *Essential Readings on Vocabulary Instruction* edited by Michael F. Graves
- *Instructional Strategies for Teaching Content Vocabulary, Grades 4–12* by Janis M. Harmon, Karen D. Wood, and Wanda B. Hedrick

IRA Journal Articles

- "What Reading Teachers Say About Vocabulary Instruction: Voices From the Classroom" by Jennifer I. Berne and Camille L.Z. Blachowicz, *The Reading Teacher,* December 2008
- "The Vocabulary-Rich Classroom: Modeling Sophisticated Word Use to Promote Word Consciousness and Vocabulary Growth" by Holly B. Lane and Stephanie Arriaza Allen, *The Reading Teacher,* February 2010

Other

- "Teaching Vocabulary in Middle and High School" (podcast): www.reading.org/General/Publications/Podcasts.aspx

FEATURE ARTICLE

Adolescents' Motivation in the Context of an Academic Vocabulary Intervention in Urban Middle School Classrooms

Nonie K. Lesaux, Julie Russ Harris, & Phoebe Sloane

Findings from research with middle schoolers show that student motivation is fostered when instruction addresses academic *and* developmental needs; students see evidence of their growth as learners and feel successful.

It was week 10 of the academic vocabulary intervention, and small groups of students gathered around desks, intently reviewing their material from the first four units. The linguistically diverse sixth graders, many considered struggling readers, were preparing for their midpoint review, eagerly anticipating the start of a word game.

This group of students, whom their teacher described at the start of the intervention as "disengaged and lacking in confidence" when it came to language skills instruction, were fully absorbed in the day's activities. They were discussing words and the varied forms they can take and clarifying multiple meanings of several words. Some reviewed their self-generated glossaries while others reviewed the sentences and sketches they had created to provide an alternative way of defining the target words. Still others sifted through their notebooks to find ways to quiz peers in their groups.

Authors (left to right)

Nonie K. Lesaux is a professor of education at the Harvard Graduate School of Education, Cambridge, Massachusetts, USA; e-mail nonie_lesaux@gse.harvard.edu.

Julie Russ Harris is a member of the Language Diversity and Literacy Development Research Group at the Harvard Graduate School of Education, Cambridge, Massachusetts, USA; e-mail julie_harris@gse.harvard.edu.

Phoebe Sloane is a member of Language Diversity and Literacy Development Research Group at the Harvard Graduate School of Education, Cambridge, Massachusetts, USA; e-mail p.sloane@sbcglobal.net.

To kick off the game, a member of the first team pulled a word out of the hat. He took a moment and then began drawing on the whiteboard while his teammates were bursting, waiting for a clue to emerge. The artist stepped back to display stick figures standing around a building—one student called out, "Community!" The opposing team watched the timer, willing it to go faster. The artist drew a Mexican flag and another student called out, "Culture!"

When the artist shook his head and continued to add more symbols above the figures, another teammate exclaimed, "No, it's the other word from that unit. You know, the one that means almost the same thing!" Another student added, "And we kept confusing them." The team sang out, almost in unison—"Ethnicity!"

Journal of Adolescent & Adult Literacy 56(3) November 2012 doi:10.1002/JAAL.00132 © 2012 International Reading Association (pp. 231–240)

The United States' adolescent literacy levels—ones that have been stagnant for several decades—have fueled a press to better meet this population's academic needs. These reform efforts, although they may include varied approaches, are aimed at preparing learners for the increasing literacy demands of college and, ultimately, for participation in the knowledge-based global economy (Carnegie Council on Advancing Adolescent Literacy, 2010).

Despite being challenging in all settings, such improvement efforts are particularly complex in the urban school environment, which is often characterized by linguistic diversity and high numbers of students who do not read at grade level (Duncan & Murnane, 2011). In fact, statistics on academic performance in urban schools have triggered questions about tailored and appropriate instructional approaches for bolstering students' literacy skills in these settings.

Yet raising adolescents' literacy rates presents a dual challenge: to design instructional approaches that are, at once, rigorous but also engaging for students whose academic motivation can be limited. That is, research has largely indicated that students' motivation in school tends to decline during middle childhood and early adolescence (Wigfield, Eccles, & Rodriguez, 1998). At the same time, the secondary classroom is often limited in its ability to respond to adolescents' developmental needs as learners and individuals (Eccles & Roeser, 2009), posing significant challenges to maintaining and fostering students' academic motivation.

For example, as compared with the elementary setting, the secondary classroom is characterized by greater emphasis on teacher control and discipline, an increase in whole-class task organization, fewer opportunities for student decision making and choice, and classroom work that requires lower-level cognitive skills (Eccles & Roeser, 2009). Moreover, in the urban school characterized by significant linguistic diversity, there are particular concerns about the population's compromised educational opportunities and academic outcomes (Cándara & Rumberger, 2009).

An approach for raising literacy rates that is beginning to gain traction may, in fact, address the dual challenge of implementing rigorous and engaging instruction for this population. That is, given that research indicates many students in these underperforming settings require significantly more support in the domains of academic language and vocabulary development, intervention efforts have begun to target these specific skills (for a review, see Nagy & Townsend, 2012).

Although this approach is designed primarily to support language and reading comprehension, we also have reason to believe that it may simultaneously address the need to create a more developmentally responsive learning environment in the secondary classroom. Indeed, high-quality academic language and vocabulary instruction, by its very nature, lends itself to increased student collaboration, autonomy as learners, and opportunities to respond to and engage with material that promotes critical thinking (Kame'enui & Baumann, 2012). As a result, there is reason to study the relationship between students' participation in such instruction and their academic motivation.

In this article, we focus on sixth graders from linguistically diverse backgrounds, many with underdeveloped language and reading skills, who participated in an academic vocabulary intervention designed for the urban English language arts (ELA) classroom. Described in more detail in the following section, on average the intervention boosted participants' language and reading comprehension skills (Lesaux, Kieffer, Faller, & Kelley, 2010; Lesaux, Kieffer, Kelley, & Harris, 2012). Of course, students' active participation underlies the overall results of this and other interventions, but, as a field, we rarely ask them about such experiences, particularly with respect to the ways in which their efforts toward academic success were encouraged or discouraged (Brozo, 2006).

We designed this study to do just that. At the end of each of two intervention cycles (in two consecutive academic years), we not only studied the intervention's effects on language and literacy skills, but we also explored the ways in which middle schoolers discuss their academic motivation, particularly as it relates to the instructional content and strategies.

To do so, we conducted 20 focus groups with a subsample of participating students. Our purpose was to foreground student voices and draw on their perspectives to shed light on which instructional approaches piqued their academic motivation, in the context of the challenging grade-level literacy intervention implemented in their ELA classrooms.

Literacy Instruction and Academic Motivation in Urban Middle Schools

Even though low student motivation may be developmental during middle childhood and early adolescence (Meece, Anderman, & Anderman, 2006; Wigfield et al., 1998), it is also important to acknowledge that motivation is largely context-specific (Anderman, Andrzejewski, & Allen, 2011; Moje, Dillon, & O'Brien, 2000). By *academic motivation*, we mean the desire to learn academic content, a desire characterized by initiative, perseverance, attention to quality, and aspiration (Meece et al., 2006; Wigfield et al., 1998). It is neither an all-or-none construct nor a fixed one. Instead, it varies in degrees and is dynamic.

In the context of intervention design, research confirms the need to view academic content, instructional practices, and academic motivation as highly interrelated (Meece et al., 2006). In the domain of academic motivation as it relates to literacy, research tells us that variation is largely a function of the text and activity at hand, as well as the social, cultural, and disciplinary context (Moje et al., 2000).

Research on academic motivation presents a complex story for adolescent literacy reform. On the surface, the findings conform to common ideas about adolescents' desire for choice and independence but also remind us that teens likewise crave opportunities to feel successful and competent. The findings from interviews conducted with middle school and high school students from diverse backgrounds across two studies highlight this complexity (Ivey & Broaddus, 2001; Smith & Wilhelm, 2004).

Specifically, Ivey and Broaddus (2001) found that many of their sixth-grade participants felt that assigned reading was unappealing, but not necessarily because it was *assigned*; instead, many students described assigned texts as difficult to comprehend. Further, Smith and Wilhelm (2004) documented that their participants initially appeared to lack academic motivation, but in fact the feelings they described were better characterized by a lack of academic confidence. Many of these students explained that if they felt supported to improve their academic abilities (in this case, reading abilities) and witnessed their own growth, they would be more motivated to continue to develop those skills.

So, for struggling adolescent readers in the urban middle school, what would constitute a rigorous yet supportive approach to literacy instruction? This question presents a design challenge: Though we would be remiss to lower our expectations, rigorous academic content at grade level could potentially be discouraging. Indeed, implementing academically rigorous and challenging instruction means an approach that necessarily is highly developmentally responsive and supportive. With this research in mind, we designed an intervention with the intent of raising literacy rates while also paying close attention to how the approach could promote students' efforts toward academic success.

In response to the findings of previous research, the intervention under study focused on the target population's weaknesses in language and vocabulary (Lesaux & Kieffer, 2010; Snow, Lawrence, & White, 2009), especially the specialized academic vocabulary of text (Coxhead, 2000).

When designing the intervention, we operationalized four key principles of effective vocabulary instruction: (1) it is text-based, so that academic words are studied in the authentic contexts in which they are used (e.g., Beck, McKeown, & Kucan, 2002); (2) it emphasizes increasing students' depth of word knowledge (e.g., Stahl & Nagy, 2006); (3) it develops students' word-learning abilities, particularly through morphology instruction (e.g., Baumann et al., 2002); and (4) it culminates in the opportunity to use the target words in an extended language production activity (e.g., Graves & Watts-Taffe, 2002; see Table for a detailed description).

Having identified these guiding principles, we then attended to the nature of the instruction. We focused on designing learning opportunities that addressed what we know about language development while taking into account sixth-grade students' developmental stage. Ultimately, three instructional elements were central to meeting these dual challenges.

First, the intervention incorporated collaborative learning activities, providing students with regular opportunities to engage with one another in structured interactions (including role-play and word play) and discussions. This element of the intervention design was intended to increase classroom talk through positive social interactions, at once boosting language development (Stahl & Nagy, 2006) and addressing the social aspects of academic motivation, particularly in a language-learning context (Wigfield et al., 1998).

Teens...crave opportunities to feel successful and competent.

TABLE Intervention Summary

Instructional component	Example
Anchors word learning in engaging, rich text(s) that features academic vocabulary and focuses on complex topics and/or questions without easy answers	Text topic: Features a soccer league in one of Africa's poorest slums Target academic words: affect, area, community, contribute, culture, establish, ethnic, resident, welfare Concepts: community service, tolerance Big question: How do you build community?
Provides multiple, meaningful opportunities for building deep word knowledge (i.e., structured and collaborative activities in which students contemplate, talk, and play)	In pairs, students engage in a mock interview. One student pretends to be someone (famous or familiar) who helps a community. The other student responds to questions containing the target words. Partners switch roles.
Develops word-learning skills through explicit instruction in analysis of meaningful word parts (i.e., morphology)	After studying the word part -tion, students revise sentences from the text to include a different form of the base word. For example, students rewrite The young people learned that they can contribute to their community to retain its meaning but use contribution instead.
Reinforces language development and critical thinking with language production activities (e.g., writing, debate)	Students respond to the writing prompt: If you could establish a program to improve the lives of children in your school or community, what would it be? Explain how it would affect their lives. Give at least three examples of ways it would improve their lives. Written pieces include relevant target words.

Second, because every unit revolved around a short piece of informational text, we gave considerable attention to text selection. We selected texts that lent themselves to teaching academic vocabulary (i.e., from each, we chose eight or nine high-utility academic words for study) as well as those with significant potential for student engagement based on topic. Several of the texts featured topics salient to adolescent youth culture, whereas others addressed current social or scientific issues.

Because quality comprehension instruction necessarily links to the text's content and moves beyond it, all articles were explicitly linked to larger questions without easy answers, and instruction began with connections to students' background knowledge and daily lives. These text-based learning opportunities were aligned not only with current principles of reading instruction (Gambrell, Malloy, & Mazzoni, 2011) but also with research that suggests educators may increase their students' academic motivation by incorporating students' home and community values and identities into the curriculum (e.g., Au & Raphael, 2000; Kirkland, 2011).

Third, all instruction was embedded in an instructional cycle that followed a developmental sequence of specific activities for building word knowledge incrementally. To move through this cycle, students had to take increasing responsibility for their learning, often choosing between activities to complete and deciding which questions to discuss and/or contemplate. This element of the intervention's design aligns with research on adolescent motivation. Specifically, the design adheres to the knowledge base that suggests student autonomy is a potential mechanism for increasing motivation (Eccles & Roeser, 2009; Meece et al., 2006).

Taken together, this approach is intended primarily to boost adolescents' literacy skills, but it also may be more aligned with a developmentally responsive learning environment than is standard.

Study Context

The intervention, which we refer to as Academic Language Instruction for All Students (ALIAS), features nine 2-week units, each consisting of nine 45-minute lessons, and two 1-week review units. (In year one, ALIAS was 18 weeks, featuring eight 8-day units and two 1-week review units. In year two, an "introductory" unit was added, and each unit lasted 9 days.)

ALIAS was implemented and investigated for two consecutive years in a large, urban school district in the southwestern United States. During the first year of implementation (2007–2008), the study was conducted in seven middle schools, and its design was quasiexperimental (Lesaux et al., 2010). In the second year of the project (2008–2009), we implemented a large-scale, randomized field trial in 14 middle schools (Lesaux et al., 2012). In both years, approximately 56% of participants could be

considered struggling readers, and approximately three quarters of the participating students were from homes where English was not the primary language. At the average participating school, 58% of students qualified for free or reduced-price lunch.

In both years of the investigation, treatment effects were observed on researcher-developed measures of academic vocabulary knowledge, morphological skills, and reading comprehension of expository texts, including academic words. In year one, treatment effects were also observed on a standardized global measure of reading comprehension. In year two, we investigated the ways in which students' vocabulary knowledge at the intervention's outset influenced its effect.

We found that the intervention's impact on measures of vocabulary knowledge and writing were generally larger for students with the lowest vocabulary levels. However, the intervention's impact on measures of text comprehension (i.e., a researcher-developed measure of expository text comprehension and the ELA section of the California Standards Test) were largest and significant for students who began the intervention with slightly below average and average vocabulary levels.

Focus Groups and Data Analysis

Here, we concentrate on data from 20 focus groups (12 in year one, 8 in year two), each composed of a subsample of participants from the two studies described. In year one, the participants were drawn from six participating classrooms, and in year two they were drawn from eight classrooms. The classrooms were deliberately chosen to capture varying levels of student achievement and program implementation.

Teachers selected 6–8 participants for the focus groups, representing a cross-section of their student population (i.e., gender and achievement level). Two members of the research team conducted the focus groups (one was also a program specialist who supported teachers' implementation and was somewhat familiar to students).

The focus-group facilitator led each discussion using a semistructured interview protocol designed to gauge students' interest level in the overall intervention and their opinions about instructional activities (e.g., What's something that you thought, "I (don't) really look forward to that part of the unit"?) and topics (e.g., What kind of articles did you like the most?), the degree of difficulty of the assignments (e.g., What made writing personal definitions difficult/easy?), and their perceptions of what they learned from different elements of the intervention (e.g., When you wrote at the end of each unit, what did you learn?).

We took a grounded theory approach to data analysis (see Auerbach & Silverstein, 2003), analyzing the interview transcripts to identify meaningful patterns across participants' responses. We then used these patterns to develop data-based hypotheses. As such, the themes presented in the following section were not decided on a priori but rather became apparent through our analytic procedure.

Phoebe (third author) analyzed the interview transcripts, engaging in an iterative process, reading the texts and coding them for *repeating ideas* (i.e., patterns within and between transcripts). These codes were then categorized by theme. Our unit of analysis was the conversational turn (Smith & Wilhelm, 2004). After this in-depth, initial coding process, a second rater (Julie, second author) read the transcripts to check the initial codes for accuracy and then to discuss these codes. After the two raters discussed the identified themes and the interview content supporting those themes, minor discrepancies were resolved via discussion, and the thematic categories were finalized.

Our Findings

Through our analysis, we identified three key themes, which shed light on students' experiences during the intervention and expose their thoughts about the ways in which it influenced their efforts toward academic success. It would be an oversimplification to say that all students' experiences fit neatly into these themes. The students provided a range of responses—sometimes contradictory—as they shared their viewpoints. However, taken together, the patterns presented here reflect the prototypical participating student's insights and provide information for further research on adolescent literacy reform.

The Reinforcing Nature of Vocabulary Development

Many participating students reported increased enjoyment during literacy activities that provided opportunities for them to witness their growing vocabulary knowledge, particularly capstone activities. As one student put it, "I know that now I'm kind of using, like, more interesting words."

For instance, when describing her favorite part of the intervention, one student said, "What I liked the most was the writing at the end, just because it shows you how much you know of the words and how much you can put all those words in a sentence and make it...right." For her, generating an extended written text provided a rewarding and favorable opportunity to demonstrate ownership of the studied words.

For other students, their perceived increased word knowledge appeared to be related to reports of increased academic confidence. One student explained, "The words, they're becoming more natural to us, and you learn how to put them in sentences more. So you feel smart and stuff, but, like, you know a lot of stuff." Notably, students reported experiencing these increased feelings of confidence outside the ELA classroom as well. For example, one student commented, "I kept on hearing [academic words] more often on the news. And before, I didn't know what they meant." During another focus group, a student noted that "you can see these words, like, all around, so it's really actually helping you."

These responses suggest that program participants linked their word learning to motivating feelings of academic enjoyment and confidence. For us, this sense of success begged the inevitable question, What was it about this intervention that helped students to be, and feel, academically successful? Thus, the second and third themes focus on particular intervention features that provided academic support and academic rigor.

The Importance of a Scaffolded Learning Environment

When it came to increasing participants' sense of academic success, two program features were discussed repeatedly: (1) the instructional cycle and (2) the opportunities to study content deeply.

Instructional Cycle. According to many students, engaging in consistent day-to-day and unit-to-unit lesson structures was helpful. "Once we started doing [ALIAS], it was kind of like a routine," explained one student. "Every day, we would get our AVNs [Academic Vocabulary Notebooks, in which the day's activities were located] out and start working on it, so, like, we got used to it, and it just helped."

Participants linked their word learning to motivating feelings of academic enjoyment and confidence.

As one would expect, the students' contradictory opinions about the relative difficulty of the program's activities surfaced. Interestingly, however, what came up in these discussions was that many students' perceptions changed over the course of the intervention. At first, the program presented novel and challenging approaches to language, reading, and writing development, and students felt bogged down trying to understand the instruction and expectations.

When these same learning activities reappeared in subsequent units, however, students explained that they could move through tasks with ease and focus on their developing literacy skills. This conversation is an illustration:

> *Student 1:* [An ALIAS activity] was kinda hard. [conversation momentarily veers off-topic]
>
> *Student 2:* But then you started getting the hang of it.
>
> *Interviewer:* So, the first time you did it, it was probably harder than the second time.
>
> *Student 3:* Yeah, and then when we got into it, and we started having more of those, we started doing better at it.

Opportunities to Study Content Deeply. Students identified the focus on depth of study over breadth of material covered as the other program feature that supported learning and fueled their motivation. Indeed, the target words—and the concepts they represent—were studied from several angles, using multiple methods, over an extended period.

Students appeared to have grasped that the learning objective was to gain a deep conceptual understanding of a select group of academic words. One participating student said, "I think it's because [referring to why the intervention was beneficial], like, all the different ways of learning [the vocabulary words]. You can, like, learn how to do it in one way, and then you can express it a different way, and then you get it better."

In discussing a word-learning approach that required students to sketch a definition of the word and write a sentence to accompany the sketch, students described how this task encouraged them to consider the kinds of situations that you could "say

[the vocabulary word] in" and how it pushed them to "think about [the word] different[ly]."

Interestingly, most students commented that the approach was unique compared to prior word work. One student explained, "Usually, they just give us the word, and we have to write the definition." Another student reiterated this sentiment, "We would say the word, and then we would say the definitions over and over until we get it right."

The Importance of a Sufficiently Challenging Learning Environment

As discussed, designing grade-level instruction for students with underdeveloped reading skills is a challenge. In this case, focusing on the nuanced and abstract academic language of text could potentially present frustrating or discouraging experiences. However, for many participating students, likely in the context of the supportive intervention features described previously, the opportunity to study rigorous content was, in and of itself, a motivational aspect of the intervention.

Many students talked about rigor with respect to the words and the texts. As one student explained, "I liked when we learned new words that were hard.... And I thought I was never gonna learn those [academic words] if we never had this program." Another explained, "I found interesting...the new words that we found out. It's a way to encourage us how to use them and how to find definitions. Now we have ways to use them in sentences, so we always learn new words."

Notably, students' responses suggested that interest in a text was not necessarily determined by preexisting preferences but instead by the way in which the text gave them new things to think about. For example, one student explained why a text topic about children in Kibera was of interest: "I like the part where we were learning about different countries."

Along the same lines, another student explained why she liked an article about disappearing bees: "Because how people just—they think bees are, like, ugly creatures and stuff, but, like, when you get to know them, when you get to read about them, they [are] actually interesting."

Finally, when it came to understanding students' preferences for a sufficiently challenging learning environment, the voices of those with alternative perspectives also provided particularly compelling insights. Indeed, students' conversations touched on an issue that those engaged in teaching and curricular design confront daily: finding and working in students' zone of proximal development—pulling them along while providing them with opportunities to practice learned skills.

Students reported boredom when activities did not allow them to put their new knowledge to the test, but they were also frustrated by tasks that made it impossible to do so. For example, one review activity was an adapted game of a popular TV quiz show. The game involved multiple-choice rather than open-ended questions, which one group of students felt to be unnecessary scaffolding. One student asked, "Why was the game so easy?" Another classmate clarified, "Why did you put the answers at the bottom, like two choices?" The discussion continued, "I think you should take [the answer choices] away. It would be more challenging and more fun."

In contrast, students articulated their frustration and lack of interest with tasks that felt like impossible challenges. In one example, a teacher had increased the number of vocabulary words to be used in the writing assignment by 30%: "Our teacher made us do instead of, like, five [target words in our writing], she made us do eight, and that's hard." Unlike those who expressed increased enjoyment and confidence when writing, these students found the more arduous writing activity discouraging.

Implications for Teaching

Improving adolescents' literacy outcomes presents a dual challenge. We must provide learning opportunities that are rigorous enough to prepare them for the literacy demands of college and the workplace while fostering their academic motivation, which is often waning at this developmental stage (Meece et al., 2006; Wigfield et al., 1998).

Here, we analyzed data from 20 student focus groups conducted with sixth-grade ELA students who participated in an academic vocabulary intervention to boost their vocabulary and reading comprehension skills. Although this study was designed to uncover student perceptions of a particular instructional reform within a particular context, certain themes were so salient across focus groups that we share their implications for educators.

The insights gained from the middle schoolers in this study suggest that high-quality academic vocabulary and language instruction can facilitate students' academic motivation. Further, the insights shed light on a few key implications for ELA

Take Action

STEPS FOR IMMEDIATE IMPLEMENTATION

TAKE THESE STEPS TO ADDRESS THE GOALS OF BUILDING STUDENTS' ACADEMIC VOCABULARY KNOWLEDGE AND INCREASING THEIR ACADEMIC MOTIVATION:

1. Implement a routine instructional cycle that supports middle schoolers' learning
   - Provide opportunities to study academic words and concepts from several angles, using multiple methods, over an extended period
   - Allow students to take increasing responsibility for their learning
   - Use a combination of whole-group and small-group learning formats
   - Incorporate reading, writing, listening, and speaking activities
2. Provide students with access to rigorous content for an appropriate challenge.
   - Select high-utility academic vocabulary words and the complex concepts they represent
   - Begin with social issues and scientific topics that can readily be linked to students' lives and that give them something new to think about

TO SEE EVIDENCE OF YOUR OWN PROFESSIONAL GROWTH AS YOU IMPLEMENT THIS INSTRUCTION:

1. Take your time at first, allowing students to learn the expectations and process.
2. Stick with the instructional cycle—a quality routine isn't boring, it's supportive
3. Reflect on your approach. Ask yourself:
   - Is my instruction focused on rigorous, grade-level content?
   - Am I providing the supports my students need to make progress?
   - Do I have structures in place for students at different levels to see their own progress?

teachers targeting their students' academic language development and working with linguistically diverse students, struggling readers, or both.

To start, students reminded us how motivating it is to experience their own progress. They described how much they wanted to "feel smart" and how feeling smarter is a lever for increasing motivation in the academic context. The implication from this finding, then, is that teachers should provide opportunities for students to perceive their growing vocabulary knowledge.

According to our participants, one element of this particular instructional approach that provided students with the chance to witness their own progress was each unit's final writing activity. Teachers might conclude their vocabulary units with capstone activities that involve the generation of academic language through writing, for example, or through student debates or class presentations. Sixth graders in this study also explained that they perceived their growing vocabulary knowledge when listening to and comprehending academic language beyond the school day. Teachers' might encourage students to listen for and use the unit's vocabulary terms outside the classroom and then report back about these academic language encounters.

Students also explained that a challenging yet supportive learning environment helps them to be, and to feel, academically successful. This key learning sheds light on two other implications for teachers: challenge students and support them as they work through these challenges. By *challenge students* we mean persist with rigorous expectations.

Teachers who are focused on increasing their students' motivation and raising literacy rates should target academically rigorous and challenging instructional goals, providing students with increased opportunities to feel competent at grade level. When working with populations of students similar to our participants (i.e., students who need significantly more support to develop academic English), ELA teachers should have students study complex academic vocabulary, read and write about multifaceted social and scientific issues, and discuss questions without easy answers.

As mentioned, challenging students has a complementary implication: supporting them as they work through these challenges. By *supporting students* we mean providing them with the structure and multiple learning opportunities they need to achieve success. Students made clear that instructional scaffolds were instrumental in making rigorous content engaging rather than discouraging. Students in this study felt supported by a consistent instructional routine that offered enough repetition and coherence to make positive outcomes attainable.

ELA teachers working in comparable settings might foster a supportive learning environment by embedding rigorous coursework in a recurring

instructional cycle. This cycle should enable students to gain familiarity and ease with the expectations and processes associated with those activities that repeat from unit to unit.

Core activities should recur across instructional cycles, but, within each unit, activities chosen should approach learning goals in diverse ways, supporting students as they build depth of knowledge but engaging them with variety, too. This means some activities will focus on language comprehension through reading or listening, and others will focus on language production, such as role-play, writing, structured word games, or discussions.

Notably, when considering these qualitative themes in tandem with the quantitative findings from the larger intervention study, we are reminded that the ways in which teachers enact the implications outlined here might resonate differently with learners. That is, we know from the results of the randomized controlled trial that students' vocabulary knowledge at the program's outset influenced their gains.

In this study, we looked for patterns across students and found a common theme regarding the motivating nature of academic progress. Yet, it stands to reason that this motivating sense of success was associated with different aspects of the program for different students, perhaps depending on their particular strengths and struggles as readers and writers. Keeping in mind students' diversity as learners, we highlight once more the need for teachers to provide varied learning opportunities, all within an instructional routine that provides the time and space for demonstrating and celebrating the many aspects of literacy development.

FIGURE Hypothesized Key Ingredients for a Motivating Learning Environment

Taken together, as illustrated in the diagram in the Figure, responses from our participating students continually brought us back to an age-old premise: When instruction is designed to provide adolescents with learning opportunities that aim to address their academic *and* developmental needs, there is an opportunity to influence academic motivation. Indeed, a motivating learning environment is likely one in which students not only receive age-appropriate supports to access rigorous, thought-provoking content but also see evidence of their own progress.

Notes

This research was funded by grants from the Institute of Education Sciences (U.S. Department of Education; Grant No. R305A080631) and the William and Flora Hewlett Foundation, as well as by a William T. Grant Foundation Scholars Award, all of which were awarded to Nonie K. Lesaux. We thank Carol Barry, Teresa Walter, Michael Kieffer, Joan G. Kelley, Andrea Anushko, Taralynn Kantor, Amy Griffiths, Jennifer Cheatham, Mark Nielsen, Tisha Ruibal, Sean Preci, Greta Castaneda, Armida Lizarraga, and S. Elisabeth Faller for their instrumental roles in carrying out the study. We would especially like to thank David J. Francis, who served as a formal advisor to the overall study, and Joan G. Kelley for her helpful insights on this manuscript. Most importantly, we thank the hard-working teachers and students who participated in this research.

References

Anderman, L., Andrzejewski, C., Allen, J. (2011). How do teachers support students' motivation and learning in their classrooms? *Teachers College Record*, 113(5), 969–1003.

Au, K.H., & Raphael, T.E. (2000). Equity and literacy in the next millennium. *Reading Research Quarterly*, 35(1), 170–188. doi:10.1598/RRQ.35.1.12

Auerbach, C.F., & Silverstein, L.B. (2003). *Qualitative data: An introduction to coding and analysis.* New York: New York University Press.

Baumann, J.F., Edwards, E.C., Font, G., Tereshinski, C.A., Kame'enui, E.J., & Olejnik, S. (2002). Teaching morphemic and contextual analysis to fifth-grade students. *Reading Research Quarterly*, 37(2), 150–176. doi:10.1598/RRQ.37.2.3

Beck, I.L., McKeown, M.G., & Kucan, L. (2002). *Bringing words to life.* New York: Guilford.

Brozo, W. (2006). Tales out of school: Accounting for adolescents in a literacy reform community. *Journal of Adolescent & Adult Literacy*, 49(5), 410–418. doi:10.1598/JAAL.49.5.5

Carnegie Council on Advancing Adolescent Literacy. (2010). *Time to act: An agenda for advancing adolescent literacy for college and career success.* New York: Carnegie Corporation of New York.

Coxhead, A. (2000). A new academic word list. *TESOL Quarterly*, 34(2), 213–238. doi:10.2307/3587951

Duncan, G.J., & Murnane, R. (Eds.). (2011). *Whither opportunity: Rising inequality and the uncertain life chances of low-income children*. New York: Russell Sage Foundation.

Eccles, J.S., & Roeser, R.W. (2009). Schools, academic motivation, and stage-environment fit. In R.M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (3rd ed., pp. 404–434). Hoboken, NJ: Wiley. doi:10.1002/9780470479193.adlpsy001013

Gambrell, L.B., Malloy, J.A., & Mazzoni, S.A. (2011). Evidence-based best practices in comprehensive literacy instruction. In L.M. Morrow & L.B. Gambrell (Eds.), *Best practices in literacy instruction* (4th ed., pp. 11–36). New York: Guilford.

Gándara, P., & Rumberger, R.W. (2009). Immigration, language, and education: How does language policy structure opportunity? *Teachers College Record, 111*(3), 750–782.

Graves, M.F., & Watts-Taffe, S.M. (2002). The place of word consciousness in a research-based vocabulary program. In A.E. Farstrup & S.J. Samuels (Eds.), *What research has to say about reading instruction* (pp. 140–165). Newark, DE: International Reading Association. doi:10.1598/0872071774.7

Ivey, G., & Broaddus, K. (2001). "Just plain reading": A survey of what makes students want to read in middle school classrooms. *Reading Research Quarterly, 36*(4), 350–377. doi:10.1598/RRQ.36.4.2

Kame'enui, E.J., & Baumann, J.F. (Eds.). (2012). *Vocabulary instruction: Research to practice* (2nd ed.). New York: Guilford.

Kirkland, D.E. (2011). Books like clothes: Engaging young black men with reading. *Journal of Adolescent & Adult Literacy, 55*(3), 199–208. doi:10.1002/JAAL.00025

Lesaux, N.K., & Kieffer, M.J. (2010). Exploring sources of reading comprehension difficulties among language minority learners and their classmates in early adolescence. *American Educational Research Journal, 47*(3), 596–632. doi:10.3102/0002831209355469

Lesaux, N.K., Kieffer, M.J., Faller, S.E., & Kelley, J.G. (2010). The effectiveness and ease of implementation of an academic vocabulary intervention for sixth graders in urban middle schools. *Reading Research Quarterly, 45*(2), 196–228. doi:10.1598/RRQ.45.2.3

Lesaux, N.K., Kieffer, M.J., Kelley, J.G., & Harris, J.R. (2012). *Effects of academic vocabulary instruction for linguistically diverse adolescents*. Manuscript submitted for publication.

Meece, J.L., Anderman, E.M., & Anderman, L.H. (2006). Classroom goal structure, student motivation, and academic achievement. *Annual Review of Psychology, 57*, 487–503. doi:10.1146/annurev.psych.56.091103.070258

Moje, E.B., Dillon, D.R., & O'Brien, D. (2000). Reexamining roles of learner, text, and context in secondary literacy. *The Journal of Educational Research, 93*(3), 165–180. doi:10.1080/00220670009598705

Nagy, W., & Townsend, D. (2012). Words as tools: Learning academic vocabulary as language acquisition. *Reading Research Quarterly, 47*(1), 91–108. doi:10.1002/RRQ.011

Smith, M., & Wilhelm, J.D. (2004). "I just like being good at it": The importance of competence in the literate lives of young men. *Journal of Adolescent & Adult Literacy, 47*(6), 454–461.

Snow, C.E., Lawrence, J.F., & White, C. (2009). Generating knowledge of academic language among urban middle school students. *Journal of Research on Educational Effectiveness, 2*(4), 325–344. doi:10.1080/19345740903167042

Stahl, S.A., & Nagy, W.E. (2006). *Teaching word meanings*. Mahwah, NJ: Erlbaum.

Wigfield, A., Eccles, J.S., & Rodriguez, D. (1998). The development of children's motivation in school contexts. *Review of Research in Education, 23*(1), 73–188.

More to Explore

CONNECTED CONTENT-BASED RESOURCES

IRA JOURNAL ARTICLES

- Baumann, J.F., & Graves, M.F. (2010). What is academic vocabulary? *Journal of Adolescent & Adult Literacy, 54*(1), 4–12.
- Kelley, J.G., Lesaux, N.K., Kieffer, M.J., & Faller, S.E. (2010). Effective academic vocabulary instruction in the urban middle school. *The Reading Teacher, 64*(1), 5–14.
- Lawrence, J.F., White, C., & Snow, C.E. (2010). The words students need. *Educational Leadership, 68*(2), 23–26.

EVEN MORE!

- Guthrie, J.T. (2011). Best practices in motivating students to read. In L.M. Morrow and L.B. Gambrell (Eds.), *Best practices in literacy instruction* (4th ed., pp. 11–36). New York: Guilford.