

Morphing Into Adolescents: Active Word Learning for English-Language Learners and Their Classmates in Middle School

To meet the needs of their students, teachers must not only teach academic language and vocabulary but also give them the thinking tools they need to be active language learners.

Michael J. Kieffer | Nonie K. Lesaux

The English language offers great opportunities to combine word parts to create new, and sometimes unintended, meanings. Consider the following quote, attributed to Jedediah Springfield, the fictional founder of the town of Springfield on the television show *The Simpsons*: “A noble spirit *embiggens* the smallest man.” When reading this quote, most literate adults can easily decipher *embiggens* as a conflation of *big* and *embolden* to mean something along the lines of “to make better.” According to fans of *The Simpsons*, it is an antonym of *belittle*, and its invention by the founder of Springfield evokes the coining of *belittle* by Thomas Jefferson in 1781. Aside from this historical connotation, the quote also reveals the utility of English morphology. *Morphology* is the system of word structure by which word parts (i.e., roots, suffixes, prefixes) can be combined to create new words. The ease with which most skilled adult readers can readily understand the statement, despite never having encountered *embiggens* before, speaks to the power of morphology.

Now consider the following quote, made by former U.S. President George W. Bush:

The public education system in America is one of the most important foundations of our democracy. After all, it is where children from all over America learn to be responsible citizens, and learn to have the skills necessary to take advantage of our fantastic *opportunistic* society.

This quote provides a cautionary tale about the challenges that morphology can present, even to adult native English speakers like former President George W. Bush. In referring to our *opportunistic* society, it is clear that President Bush sought to use an adjective to express the idea that society offers opportunities. However, it is unlikely that he intended to evoke the negative connotation of unethical behavior that *opportunist* implies. This quote shows how failing to analyze the meanings of word parts precisely can lead to unintended meanings.

For middle school students, learning to understand and use word structure can make a major difference in helping them read with comprehension.

In particular, understanding word structure can be a valuable tool to tackle the new and unknown words that students encounter while reading on their own. This tool is especially useful for students who are learning English as a second language, a group commonly known as English-language learners (ELLs). Historically underserved in U.S. schools, ELLs often experience lower teacher expectations, have limited access to educational resources, and have fewer opportunities to learn than their monolingual peers in suburban schools (e.g., Gándara, Rumberger, Maxwell-Jolly, & Callahan, 2003). Although some ELLs can overcome these challenges to achieve high levels of educational success, many encounter difficulties in learning a large number of English words quickly enough to be successful in high school and beyond. For those ELLs who struggle in middle school, morphology can be a powerful tool to accelerate their English word learning.

In this article, we explore the potential benefits and some challenges involved in learning to understand word structure for ELLs and their classmates in underresourced, urban middle schools. Drawing on research, we describe an approach to teach students to break words down and to manipulate word parts that has been found to be effective in urban middle school classrooms. In the first section, we explain the importance of morphology in academic language learning and summarize the research that supports it. Then, we provide and explain four principles for teaching morphology, illustrating each with sample activities that have been classroom tested.

Academic Language, Morphology, and Independent Word Learning

Research evidence confirms what many middle school teachers already know—students who arrive at sixth grade with limited vocabularies struggle to comprehend grade-level texts (e.g., Anderson & Freebody, 1981; RAND Reading Study Group, 2002). Unfortunately, in underresourced schools in urban settings, a large number of students reach sixth grade without gaining the sophisticated vocabulary they need to read for understanding. This is particularly true of ELLs, a rapidly growing group of students in nearly every U.S. school district. For instance,

studies indicate that as many as half of the sixth-grade students in urban English language arts classrooms struggle with reading comprehension and that most of these students have limited vocabulary (e.g., Deshler, Palincsar, Biancarosa, & Nair, 2007; Lesaux & Kieffer, 2010). In such classrooms, large numbers of ELLs have limited vocabularies and poor reading comprehension, but so do many native English speakers (e.g., Freeman & Freeman, 2008; Lesaux & Kieffer, 2010; Zwiers, 2008). Given the large number of struggling students, this problem will not be solved by relying on English as a Second Language teachers or reading specialists working with individual students. Rather, urban teachers need effective instructional techniques that they can use with all their students.

Contrary to arguments that politicians have made about the struggles of many ELLs, the problem is not that ELLs are unmotivated or unsuccessful in learning to speak English. Indeed, studies have shown that immigrant families place a high value on their children acquiring English and achieving in school (e.g., Suárez-Orozco & Suárez-Orozco, 2001, and most ELLs quickly learn the basic oral English skills necessary to engage in social interactions and follow directions in classrooms. Rather, many of the ELLs who encounter difficulties, like many of their struggling native English-speaking classmates, lack the academic language required to read to learn from content area texts (for accessible reviews of the research on this topic, see August & Shanahan, 2008; Short & Fitzsimmons, 2007).

Academic language refers to the abstract, specialized, and conceptually dense language of school and school texts (Cummins, 1979; Fang, 2008; Pilgreen, 2007; Snow & Uccelli, 2009). Academic vocabulary refers to those words, such as *analyze*, *effect*, and *indicate*, that students often encounter in expository texts across the content areas of science and social studies, but that they only rarely encounter in narrative texts and everyday conversation. These words provide a foundation for learning new concepts and processes in middle and high school classrooms. When students lack this foundation, they are very likely to struggle with reading and writing about new topics, not only in English language arts, but in every class.

The task of learning all the words needed to comprehend grade-level text is enormous. Researchers estimate that good readers learn nearly 3,000 new words a year (Nagy, Anderson, & Herman, 1987) and that readers who are struggling or educationally marginalized are likely to learn far fewer words. For those who need vocabulary support, teachers cannot possibly teach all these words directly, so they must give students tools and strategies for learning words on their own. One such tool is morphology.

The word *morphology* can be broken down (morphologically) into two meaningful parts: *morph-*, which means “shape,” and *-ology*, which means “the study of.” Morphology, in its most general sense, is the study of shape. In linguistics, morphology is the study of the structure of words as combinations of smaller units of meaning within words: morphemes. (As an aside, the popular word *morph* that was coined in 1991 for the special effect in movies and television when one image changes into a different image is something of a linguistic irony. The word comes from an etymologically inaccurate shortening of *metamorphosis*, or the process of changing shape; though it may come as a surprise to special-effects artists and cartoon enthusiasts, it is the morpheme *meta-* rather than the morpheme *morph* that originally meant “change.”)

Morphemes include roots that can stand alone as words, such as *teach* in *teacher* or *big* in *embiggens* (i.e., free morphemes), and prefixes and suffixes that cannot stand alone as words, such as *re-*, *-ed*, *-ity*, and *-tion* (i.e., bound morphemes). Suffixes can be of two types: (1) inflectional suffixes such as *-ed* and *-s* that change the tense or number of a word without changing its part of speech, and (2) derivational suffixes such as *-ity* and *-tion* that change a word’s part of speech or shade of meaning. When an inflectional morpheme is added, as in *walked*, we call the new word *inflected* whereas when a derivational morpheme is added, as in *information*, we call the new word *derived*.

Students generally start to learn inflectional morphology early and most master it by the early elementary school years (Kuo & Anderson, 2006). In contrast, derivational morphology takes longer to learn, so many students in middle school continue to struggle with this skill. At times, even adults can encounter derivational challenges. For instance, when encountering the word *catalysis* (pronounced \kə-’ta-lə-səs\)

in a discussion about chemistry, a nonchemist may not immediately recognize the relationship with more common words such as *catalyst* and *catalyze*, in part because there is a shift in the sound of the root from \’ka-tə-ləst\ to \kə-’ta-lə-səs\. Similarly, if one is diagnosed with *pseudopseudohypoparathyroidism*—which is the longest word in the Oxford English dictionary—it may take some thinking to dissect the word into its parts to find out that this is a condition that masquerades as a different condition that in turn masquerades as a disorder of a gland near the thyroid.

Although most middle school students have mastered the difference between *walk* and *walked* and although few will have to decipher *pseudopseudohypoparathyroidism*, understanding the relationship between *complexity* and *complex* or between *categorical* and *category* can be a powerful tool. Faced with the daunting task of learning the many words needed to understand middle school texts, students who understand word structure well are better equipped to meet this challenge. Being able to break apart complex words is particularly important for students to understand texts in science, social studies, and English language arts, because writers in these content areas often use suffixes to create key abstract words such as *dilution*, *equality*, or *personify* (Fang, 2008).

In a recent study, we learned that teachers could help their students by teaching morphology in an explicit yet meaningful way (Kieffer, 2009). Working with 13 teachers in seven urban middle schools with large numbers of ELLs, we found that an 18-week academic vocabulary intervention improved students’ skills in morphology, vocabulary, and reading comprehension (see also Lesaux, Kieffer, Faller, & Kelley, 2010). When we compared these students’ gains with the gains of similar students who were taught the standard English language arts curriculum, we found that the intervention students gained about six months of extra growth in morphology and nine months of extra growth in reading comprehension. In addition, the intervention helped ELLs and native English speakers become more active word learners

In a recent study, we learned that teachers could help their students by teaching morphology in an explicit yet meaningful way.

and better comprehenders. Perhaps even more important, the teachers who tried the intervention said that the approach was relatively easy to use, engaging for their students, and helped them learn more about their students' language learning.

What Does Good Morphology Teaching Look Like?

In designing our intervention, we used four principles for effective morphology instruction. These principles echo and draw on the ideas of many other researchers, especially Carlo et al. (2004), Stahl and Nagy (2006), and Graves (2006). Through the process of designing and evaluating the intervention, we refined each of the principles, building on early ideas we had described previously (Kieffer & Lesaux, 2007). In the following sections, we describe each general principle and provide specific examples to illustrate how teachers can put these principles into practice.

Principle 1: Morphology Should Be Taught in the Context of Rich Vocabulary Instruction

Teaching about word parts is most successful when teachers combine it with rich and direct instruction in specific words. By teaching high-utility, academic words, teachers provide meaningful examples for students to manipulate. By first teaching the meaning of *strategy*, teachers set up students for success in analyzing and using *strategic*, *strategize*, or *strategically* (though teachers might want to be cautious about *stratergy*, a pseudo-Bushism popularized by an impersonator of the former president on *Saturday Night Live*). Instruction and practice with specific word meanings can also raise students' word consciousness, that is, their awareness of and interest in words and their meanings (Graves, 2006; Stahl & Nagy, 2006), which makes morphology easier to teach. Having focused their attention on learning more words, students are primed to learn more about words.

How to teach specific words has been described well in several recent books for teachers (Beck, McKeown, & Kucan, 2002; Graves, 2006; Stahl & Nagy, 2006), and how to integrate morphology into academic language instruction for adolescents has also been described (see Freeman & Freeman, 2008; Kieffer & Lesaux, 2007). We do not repeat these

recommendations here. Put very briefly, key principles for how to teach specific words are as follows: (1) teach a limited number of high-utility words directly, (2) present words in a variety of meaningful oral and print contexts, and (3) provide repeated opportunities for deep processing of word meanings and scaffolded practice in using words.

Principle 2: Using Morphology Should Be Taught as a Cognitive Strategy

Students need to learn morphology not as a bunch of rules or lists of word parts but as a thinking strategy that they can use in their own reading and writing. By "cognitive strategy" we mean what Conley (2008) called a "strategic tool for reasoning" (p. 87) while interacting with and constructing meaning from texts. Like other cognitive strategies used in reading, teaching students to use morphology requires teaching the strategy as a series of stages in thinking, not just the steps in a lesson. To break a word down into morphemes, students need to do the following: (1) recognize that they do not know the word or do not have a deep understanding of the meaning of the word, (2) analyze the word for morphemes that they recognize (i.e., roots, prefixes, suffixes), (3) hypothesize a meaning for the word based on the word parts, and (4) check the hypothesis against the context.

Teachers should teach these four steps explicitly, explain to students how they are useful in their own word learning, model them several times with meaningful examples, and provide students with time and guidance to practice them. In so doing, teachers can scaffold this process, gradually releasing the responsibility to the students (see Clark & Graves, 2005 for thoughtful discussions of scaffolding in comprehension instruction). Teachers must also be aware—and raise their students' awareness—of the potential pitfalls of overapplying morphemic analysis without checking the extracted meaning against the context. For instance, students who have been taught that *in-* means "not/lacking" might be confused by *input* if they do not learn that this prefix can also mean "into" and develop the skills to decide which meaning is appropriate. Similarly, students should be warned about the limitations of this approach, lest they get frustrated trying to decipher *inch*, *India*, or *indigo*.

To see what this looks like in practice, consider the following exchange between a teacher and her students. This conversation is based on intervention materials and observations from our research, although the specific language used is not verbatim from any particular observation. In this exchange, the teacher is introducing the suffix *-tion* and its function while reviewing the concept of a suffix. As she introduces these new morphological skills, she justifies them not just as a classroom activity but as a strategy for students to use in their reading and writing.

Teacher: Today, we are going to move past just learning each word’s meaning from our article and start to learn how we can be better word detectives to figure out words that we don’t know. One important goal in our class is not just to learn the target words up there on the wall, but also to learn how to be excellent word detectives when you go to your other classes or go home and read on your own. Today, we are going to talk about one way you can learn new words on your own—by breaking them down into parts that you already know. Look at the four sets of words I have on the board [see Figure 1]. Turn to your partners and tell them what you think the words in each column have in common. Think about both their forms and their meanings. [pause for a few minutes] Who wants to share with us what your partner said?

First student: My partner said that the ones on the left are things you do.
 Teacher: Good thinking. The words on the left are all action words for things that you do. If you think about these in a sentence, they are the action of the sentence. Remember that we call that type of word a *verb*. How about the ones on the right?

Second student: My partner said that all the words on the right have “-tion.”
 Teacher: Great. What did you notice about the meaning of those words? How are their

Figure 1 Word Sets Used in Sample Instructional Dialogue

Invent	Invention
Invite	Invitation
Celebrate	Celebration
Imagine	Imagination

meanings different from the words on the left?

Third student: I’m not sure, but an invention is a thing... it’s something that you invent.
 Teacher: You’re right. When you add “-tion” to *invent*, you change it from an action into an object, the thing that someone invented. It’s the same with these other words—adding “-tion” changes them from verbs to nouns. So you would say “My friend will *invite* me to a party” if you were talking about the action of inviting someone, but you would say “My friend gave me an *invitation*” if you were talking about the paper card that you would get. What about the last one, *imagination*? Is that a thing? How is it a little different? Tell your partner what you think. [pause for one or two minutes] What do you think?

Fourth student: Imagination is something you can have, like when you have a good imagination and think of lots of cool things. But it’s not a thing.
 Teacher: Great thinking. Imagination is something you can have, but it is not a physical thing that you can touch. It is more of an idea. So adding “-tion” can also turn actions into ideas.

Principle 3: Instruction Should Introduce Important Word Parts Systematically and With Opportunities for Reteaching and Practice

As with any area of curriculum, teachers need to plan which elements of morphology to teach (i.e., the scope) and in what order (i.e., the sequence). Choosing the

scope for morphology teaching is important, because not all morphemes are created equal. Some suffixes such as *-er* in *teacher* and *writer* are especially common and flexible (i.e., can be applied to many root words). Suffixes like *-er* are also easier to learn than others, because the combinations they build are transparent (i.e., most *-er* words are like *teacher* in that their root is easy to extract and has an obvious meaning). Most middle school students will not require much instruction to learn these types of suffixes. In fact, if teachers activate students' implicit understanding of *-er* words, students can use it as a way to understand other suffixes and roots. In our study, teachers briefly taught words with *-er* and *-or* in an early unit as a way of introducing the concept of a suffix and how suffixes function.

On the other hand, some suffixes are rare, inflexible, or make obscure complex words. For instance, the suffix *-cide*, which means "to kill" (e.g., *suicide*, *herbicide*), is not especially frequent and can only be applied to things that can be killed. In addition, it sometimes combines with more obscure Latin roots to make combinations that are difficult to extract meaning from. Breaking *suicide* down into *sui-* and *-cide* does not yield an obvious meaning, unless one knows that *sui-* is related to the Latin for "of oneself," so most students learn *suicide* as a whole word rather than as a combination of parts. Teaching these rare and inflexible suffixes will not necessarily equip students to tackle many novel words and thus may not be an efficient use of instructional time for early adolescents.

So in designing the scope for morphology instruction, teachers should choose a range of affixes that are of relatively high frequency and can be flexibly added

to many academic words. In selecting word parts for instruction, we started with a list of high-frequency suffixes (see Stahl & Nagy, 2006 for examples) but also chose suffixes that could be flexibly added to the target words that had been chosen for direct instruction. For our research purposes, we limited the instruction to suffixes (i.e., to build on prior research that has focused on assessment and teaching of derivational suffixes); however, teachers should certainly teach useful and frequent prefixes and roots as well.

Once the scope or range of word parts is chosen, teachers must then consider how to create an order or instructional sequence for how they will be introduced. In a recent study in which we looked at a group of ELLs' growing understanding of morphology (Kieffer, 2009), we learned that some derived words were easier to break down than others. Table 1 displays examples of derived words that are easy, somewhat challenging, and very challenging to decompose. In particular, more common suffixes such as *-er* are easier to break down than rarer suffixes such as *-ity*. Also, words in which adding the suffix changes the sound of the root word (e.g., *courageous* to *courage*) are more difficult to break down, compared with words in which the sound remains the same, and those words in which adding the suffix changes the sound and the spelling of the root word (e.g., *admission* to *admit*) are even more challenging.

Using this information, we designed a sequence for introducing the suffixes over the 18 weeks that would help students build on what they know and become increasingly challenging over time, as shown in Table 2. Of course, choosing the sequence for introducing suffixes also depends on the context for the instruction—in some cases, we chose to introduce

Table 1 Examples of Morphological Relationships of Derived Words at Various Difficulty Levels

Easy to decompose	Somewhat challenging to decompose	Very challenging to decompose
Swimmer > swim	Possession > possess	Width > wide
Teacher > teach	Activity > active	Categorical > category
Growth > grow	Courageous > courage	Admission > admit
Discussion > discuss	Decision > decide	Durability > durable

Table 2 Example of One Scope and Sequence for Suffix Instruction

Unit theme	Suffix targeted	Common words to introduce suffix	Academic target words
Community and cooperation	-sion	decision, discussion	admission, possession
	-tion	celebration, imagination, invention, invitation	contribution, education, organization, solution
Cyberbullying	-ify	classify, personify, simplify	identify
Archaeological discovery	-er	driver, helper, teacher	researcher
	-ist		archaeologist, journalist, scientist
	-or	translator	communicator, contributor, locator, surveyor
Single-gender education	-al	accidental	communal, cultural, optional
	-ical	magical, musical	methodical, periodical, topical
Disappearing honeybees	-ous	adventurous, courageous, disastrous	dangerous, mysterious
Children and television	-ity	ability, equality, invisibility	community, complexity, ethnicity, identity
Photojournalism	-ful	careful, helpful, playful	powerful, resourceful
	-ness	darkness, happiness, playfulness, sadness	awareness, resourcefulness
Antarctic exploration	-ly	quickly, sadly, slowly	constantly, legally, nearly

slightly more difficult affixes earlier if they were important to learning the target words for a particular unit deeply or if there were more examples available from the text for a particular unit.

In addition to introducing different suffixes in a careful sequence, teachers should also be thoughtful in selecting the examples of derived words to use to introduce a suffix. One good approach is to introduce a given suffix using common examples that many students are likely to recognize before extending the suffix to more abstract or academic examples. For instance, in a lesson on *-er* and *-or*, a teacher can ask students to reflect on what they know about *-er* in *teacher* and *writer* and then extend this understanding to new forms of more academic target words, such as *communicator*, *contributor*, and *researcher*. Similarly, when introducing the suffixes *-al* and *-ical*, teachers can ask students to consider *accidental*, *magical*, and *musical* and what they have in common (i.e., they are all describing words or adjectives) before applying the suffixes to target words to form *cultural*, *optional*, *methodical*, and *periodical*. See Table 2 for more examples of common

words and academic target words that teachers in our study used to teach each suffix.

A final consideration for making instruction systematic is to provide sufficient opportunities for reteaching and guided practice in using the morphological tools taught. To do so, we designed the morphology lessons to be “spiraling.” A spiraling curriculum is one that revisits previously taught content or topics with each lesson, but does so at an incrementally higher level of difficulty in an upward spiral of performance (Bruner, 1960). One instructional routine to support spiraling is a cumulative word form chart that can be posted in the classroom as a type of interactive word wall (Harmon, Wood, Hedrick, Vintinner, & Willeford, 2009).

As shown in Figure 2, a word form chart is a simple chart on which students and their teacher record the new morphological forms of words they learn according to their part of speech and thus their function in sentences. As new word parts are introduced and as students encounter or create new words with previously taught suffixes, teachers and students record

Figure 2 Example of a Cumulative Word Form Chart

Verbs (actions)	Nouns (person, place, thing, or idea)	Adjectives words to describe nouns)	Adverbs (words to describe actions)
Contribute	Contribution		
Prepare	Preparation		
Survive	Survivor		
	Culture	Cultural	Culturally
	Method	Methodical	Methodically
	Period	Periodical	Periodically

these on the chart. Teachers can provide a classroom word form chart while each student maintains a personal word form chart in a notebook. With each morphology lesson, the teacher and students can return to these charts to review previously taught word parts, resolve students' confusion about particular word parts, and extend them to newly taught words. By encouraging students to collect their own examples of word forms, this activity can help build students' word consciousness.

Principle 4: Instruction Should Be Explicit but Situated in Meaningful Contexts

Students struggling with reading often need explicit instruction; that is, instruction that clearly and purposefully draws students' attention to the specific elements and processes involved in successful reading (e.g., National Institute of Child Health and Human Development, 2000). Simply having students read morphologically complex words or write sentences with such words is not enough to improve their understanding of how word parts function, because these implicit activities do not necessarily lead students or teachers to make the thinking processes they use visible.

On the other hand, for those students who may have limited English vocabularies, instruction that is explicit but decontextualized can be confusing and disengaging. For instance, asking students to complete a worksheet with a series of unrelated sentences using the correct form of a word can be frustrating and ineffective if each sentence requires knowledge of different vocabulary and a unique topic. Moreover, if the

sentences are not thematically related, students will neither approach the task as a meaning-making activity nor be able to connect the work to the thinking processes they use in reading and writing. Similarly, requiring students to circle the suffixes in a word list or to copy definitions for suffixes (which are rarely helpful in and of themselves) may draw their attention to word parts, but will not prepare students to apply their morphological skills to the authentic contexts of reading and writing in which they are useful.

To balance the demands of being explicit and providing meaningful context, teachers must plan opportunities to teach specific word parts with useful examples and in relation to the themes and topics being taught. In the study, teachers used examples of derived words for which students had already learned the concept behind the base word, such as teaching *cultural* after students had spent several days discussing the meaning of *culture*. Teachers then used writing activities in which students applied their growing morphological skills to edit and rewrite passages that were thematically related to the unit's topic. For instance, during a unit on single-gender education, the morphology lesson came after students had read an article on the pros and cons of separating boys and girls in school and had discussed their own opinions. Following substantial knowledge- and vocabulary-building activities, the morphology lesson then asked students to read a paragraph conveying one girl's opinion on this topic and to find and correct the words used in an incorrect morphological form (see Figure 3). By using the thematic context of the unit, this activity drew on the knowledge of the topic that

students had built up as well as the knowledge of the key vocabulary words involved. Although reading and comprehending the paragraph took some effort on the part of the students, it did not need extensive work to build background knowledge, allowing students to focus their attention on the analysis of the morphological forms of the words.

Thinking Tools for Academic Success

Equipping middle school readers with the tools they need to comprehend sophisticated academic texts is no easy job. To meet the needs of their students, teachers must not only teach academic language and vocabulary, but also must give them the thinking tools they need to be active language learners. By devoting time and energy to teaching morphology in ways that are meaningful, engaging, and systematic, teachers can accelerate their students' vocabulary development and prepare them to read to learn rigorous content in high school and beyond.

Notes

This research article was supported by the 2008 International Reading Association Jeanne S. Chall Research Fellowship and a Spencer Foundation Dissertation Fellowship awarded to Michael J. Kieffer. The data reported herein were collected in the context of a larger research project supported by grants from the National Institute of Child Health and Human Development and the William and Flora Hewlett Foundation awarded to Nonie K. Lesaux. We would like to thank Joan Kelley, S. Elizabeth Faller, Julie Russ, Amy Griffiths, and Amy Crosson for their substantial contributions to this research, and Catherine Snow, John Willett, Jeannette Mancilla-Martinez, and Daniel Berry for their feedback on earlier drafts of this manuscript. We would also like to thank Carol Barry, Terry Walter, and Jennifer Cheatham for making this work possible as well as the hard-working teachers and students who participated in this research.

References

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

August, D., & Shanahan, T. (2008). *Developing reading and writing in second-language learners: Lessons from the report of the National Literacy Panel on language-minority children and youth*. New York: Routledge.

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

Bruner, J.S. (1960). *The Process of education*. Cambridge, MA: Harvard University Press.

Figure 3 Example of a Morphological Activity

Unit 4: Single-Sex Education Find the Misfits

Directions: In this paragraph, there are 12 words that have been used in an incorrect form. Find and correct them by adding or removing a suffix. The first one is done for you as an example.

The Pros and Cons of Going to an All-Girls School

As a student at an all-girls middle school since sixth grade, I believe that there are both advantages and disadvantages to this ^{type}typical of school. The advantages are that teachers can make sure we learn with the methodicals that are best for us. For example, at our school, we learn to work in groups a lot and communication well with each other. Our school has a real community, and we are not worried that teaches will discrimination against us, because we are girls. If I went to a school with both boys and girls, I think these things might be different.

Additionally, I think that some of the girls make more contribute to class discusses when there are no boys around. However, going to an all-girls school also has disadvantages. We do not get to learn about boys' experiences. I think it is important to learner about the experiences of people with different genders, cultural, or ethnicities, because all of these things affect a person's identity. Although there is a boys' school that is locator close to our school, we only see the boys at dances, which are option and not required. To conclude, I enjoy going to an all-girls school, but I also believe that it has some drawbacks.

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(2), 188–215. doi:10.1598/RRQ.39.2.3

Clark, K.F., & Graves, M.F. (2005). Scaffolding students' comprehension of text. *The Reading Teacher*, 58(6), 570–580. doi:10.1598/RT.58.6.6

Conley, M.W. (2008). Cognitive strategy instruction for adolescents: What we know about the promise, what we don't know about the potential. *Harvard Educational Review*, 78(1), 84–106.

Cummins, J. (1979). Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters. *Working Papers on Bilingualism*, 19, 121–129.

Deshler, D.D., Palincsar, A.S., Biancarosa, G., & Nair, M. (2007). *Informed choices for struggling adolescent readers: A*

- research-based guide to instructional programs and practices. Newark, DE: International Reading Association.
- Fang, Z. (2008). Going beyond the Fab Five: Helping students cope with the unique linguistic challenges of expository reading in intermediate grades. *Journal of Adolescent & Adult Literacy*, 51(6), 476–487. doi:10.1598/JAAL.51.6.4
- Freeman, Y.S., & Freeman, D.E. (2008). *Academic language for English language learners and struggling readers: How to help students succeed across the content areas*. Portsmouth, NH: Heinemann.
- Gándara, P., Rumberger, R., Maxwell-Jolly, J., & Callahan, R. (2003). English learners in California schools: Unequal resources, unequal outcomes. *Education Policy Analysis Archives*, 11(36). Retrieved March 11, 2008, from epaa.asu.edu/epaa/v11n36
- Graves, M.F. (2006). *The vocabulary book: Learning & instruction*. New York: Teachers College Press; Newark, DE: International Reading Association; Urbana, IL: National Council of Teachers of English.
- Harmon, J.M., Wood, K.D., Hedrick, W.B., Vintinner, J., & Willeford, T. (2009). Interactive word walls: More than just reading the writing on the walls. *Journal of Adolescent & Adult Literacy*, 52(5), 398–408. doi:10.1598/JAAL.52.5.4
- Kieffer, M.J. (2009). *The development of morphological awareness and vocabulary knowledge in adolescent language minority learners and their native English-speaking classmates*. Unpublished doctoral dissertation, Harvard Graduate School of Education, Cambridge, Massachusetts.
- Kieffer, M.J., & Lesaux, N.K. (2007). Breaking words down 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
- Kuo, L.-J., & Anderson, R.C. (2006). Morphological awareness and learning to read: A cross-language perspective. *Educational Psychologist*, 41(3), 161–180. doi:10.1207/s15326985ep4103_3
- Lesaux, N.K., & Kieffer, M.J. (2010, January). Exploring sources of reading comprehension difficulties among language minority learners and their classmates in early adolescence. *American Educational Research Journal*. doi:10.3102/0002831209355469
- Lesaux, N.K., Kieffer, M.J., Faller, E., & Kelley, J. (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), 198–230.
- Nagy, W.E., Anderson, R.C., & Herman, P.A. (1987). Learning word meanings from context during normal reading. *American Educational Research Journal*, 24(2), 237–270.
- 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.
- Pilgreen, J. (2007). Teaching the language of school to secondary English learners. In J. Lewis & G. Moorman (Eds.), *Adolescent literacy instruction: Policies and promising practices* (pp. 238–262). Newark, DE: International Reading Association.
- RAND Reading Study Group. (2002). *Reading for understanding: Toward an R&D program in reading comprehension*. Santa Monica, CA: RAND.
- Short, D.J., & Fitzsimmons, S. (2007). *Double the work: Challenges and solutions to acquiring language and academic literacy for adolescent English language learners: A report to Carnegie Corporation of New York*. Washington, DC: Alliance for Excellent Education.
- Snow, C.E., & Uccelli, P. (2009). The challenge of academic language. In D.R. Olson & N. Torrance (Eds.), *The Cambridge handbook of literacy* (pp. 112–133). New York: Cambridge University Press.
- Stahl, S.A., & Nagy, W.E. (2006). *Teaching word meanings*. Mahwah, NJ: Erlbaum.
- Suárez-Orozco, C., & Suárez-Orozco, M. (2001). *Children of immigration*. Cambridge, MA: Harvard University Press.
- Zwiers, J. (2008). *Building academic language: Essential practices for content classrooms, grades 5–12*. Newark, DE: International Reading Association.

Kieffer teaches at Columbia University, New York, New York, USA; e-mail mk3157@columbia.edu. Lesaux teaches at the Harvard Graduate School of Education, Cambridge, Massachusetts, USA; e-mail nonie_lesaux@gse.harvard.edu.

Copyright of Journal of Adolescent & Adult Literacy is the property of International Reading Association and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.