"Bumping Into Spicy, Tasty Words That Catch Your Tongue": A Formative Experiment on Vocabulary Instruction

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Immersing students in a vocabulary-rich environment and providing them instruction in words and word-learning strategies, can help them develop greater breadth and depth of vocabulary knowledge.

> "If we're reading and we bump into something [a word] that we don't understand...then if you just look up at the [instructional] charts, the context clues, then you can kind of like...get an idea of what it means." Paula (all student names are pseudonyms)
>
> "If you're writing and you want...to go into your thesaurus and find another, um, spicy word, tasty [word]....You can just go in there and look and then you can find another word that is a lot better." Donald
>
> "Reading means words, words that catch your tongue, and words that don't mean what they sound." Gary

These are statements from fifth-grade students near the end of our yearlong inquiry into vocabulary instruction. The purpose of our study was to explore the impact of a comprehensive vocabulary instructional program on students' word knowledge and appreciation. In this article, we describe the vocabulary program and the outcomes of our study that led students to report that they learned how to "bump into spicy, tasty words that caught their tongues."

Background

Our study was grounded on current research on vocabulary development and instruction (Baumann, Kame'enui, & Ash, 2003; Blachowicz & Fisher, 2000; Nagy & Scott, 2000). It was informed particularly by two prior studies in which we explored whether students could be taught to use structural analysis (examining the meaningful parts of words like root words, prefixes, and suffixes) and contextual analysis (scrutinizing surrounding text for cues to word meaning) to learn novel words (Baumann et al., 2002; Baumann, Edwards, Boland, Olejnik, & Kame'enui, 2003). Results of these studies demonstrated that, in general, students could be taught successfully to use these strategies.

It was useful to learn that students could be taught to use structural and contextual analysis, but we realized that there were additional ways to teach vocabulary. Kamil and Hiebert (2005) asserted that "educators need to design classroom experiences that are multifaceted, if students are to acquire new words" (p. 7); however, our examination of the literature revealed no studies that explored multifaceted vocabulary instruction. In addition, most research was limited in its ability to generalize to classroom contexts—a conclusion expressed by the National Reading Panel (National Institute of Child Health and Human Development, 2000):

> The Panel knows a great deal about the ways in which vocabulary increases under highly controlled conditions, but the Panel knows much less about the ways in which such growth can be fostered in instructional contexts. There is a great need for the conduct of research on these topics in authentic school contexts, with real teachers, under real conditions. (p. 4-27).

To address the need for multifaceted vocabulary research, we explored the effects of a comprehensive

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vocabulary instruction program outlined by Graves (2000, 2006). Graves's program consists of four components known to be effective for promoting vocabulary: "(1) providing rich and varied language experiences; (2) teaching individual words; (3) teaching word-learning strategies; and (4) fostering word consciousness" (Graves, 2006, p. 5).

To address the need for more generalizable research, we selected a formative experiment (Reinking & Bradley, 2004) research framework. A formative experiment is intended for inquiries exploring the effects of long-term instructional interventions in natural educational settings. Unlike traditional experiments, formative experiments often do not include a control group, and they permit modifications to interventions as a study unfolds in order to better achieve the instructional goal (see examples of formative experiments by Duffy, 2001; Jiménez, 1997; Reinking & Watkins, 2000). Our research question was, What is the impact of a yearlong instructional program that incorporates Graves's (2000, 2006) four components on the vocabulary development and appreciation of fifth-grade students?

The Study

We conducted the study in Donna's fifth-grade classroom at a low-income (65% free/reduced-price lunch), diverse (56% African American, 25% European American, 14% Latino/a, 5% other), elementary school in a medium-sized U.S. community. We gathered data on 20 students in Donna's class. We pretested students in August. From September through April, we integrated vocabulary lessons and activities into Donna's reading and language arts block, social studies class, and several other periods during the day (see Table 1). Posttesting occurred in May. Data sources included several published reading and vocabulary tests, student writing samples, student and parent questionnaires, student interviews, lesson plans, student work and logs, and researcher journals.

Donna provided most of the vocabulary instruction, with Jim and Elizabeth (university collaborators) teaching occasional lessons and assuming responsibility for much of the data gathering. In keeping with the formative experimental design, we used students' performance and our own reflections on the program

Table 1
Daily Classes and Periods Within Which the Vocabulary Program Was Implemented

Period	Instructional activities
Morning organizational period (15 minutes)	■ Word-of-the-day activities ■ Word-play activities ■ Independent reading ■ Teacher–student reading and writing conferences
Reading and language arts block (90 minutes)	■ Independent reading and writing ■ Read-alouds ■ Literature circles and literature response activities ■ Shared and guided reading ■ Instruction in self-selected and teacher-selected words from books read or compositions being written ■ Writing workshop ■ Minilessons on word-learning strategies ■ Teacher–student reading and writing conferences
Social studies class (50 minutes)	■ Instruction in specific subject-matter vocabulary ■ Word-learning strategy instruction integrated into social studies lessons ■ Content-related read-alouds and trade book reading
After-lunch homeroom period (25 minutes)	■ Read-alouds ■ Independent reading ■ Reader's–writer's chair

to modify and refine the vocabulary instruction throughout the course of the study (Reinking & Bradley, 2004).

The Vocabulary Instructional Program

We selected vocabulary techniques and strategies compatible with Graves's (2006) framework from professional journals and user-friendly books such as *Words, Words, Words* (Allen, 1999), *Bringing Words to Life* (Beck, McKeown, & Kucan, 2002), *Teaching Vocabulary in All Classrooms* (Blachowicz & Fisher, 2006), *The Vocabulary-Enriched Classroom* (Block & Mangieri, 2006), *Vocabulary in the Elementary and Middle School* (Johnson, 2001), and *Teaching Word Meanings* (Stahl & Nagy, 2006). Donna's belief in the importance of writing in literacy development led us to integrate considerable composition into the four components.

Providing Rich and Varied Language Experiences

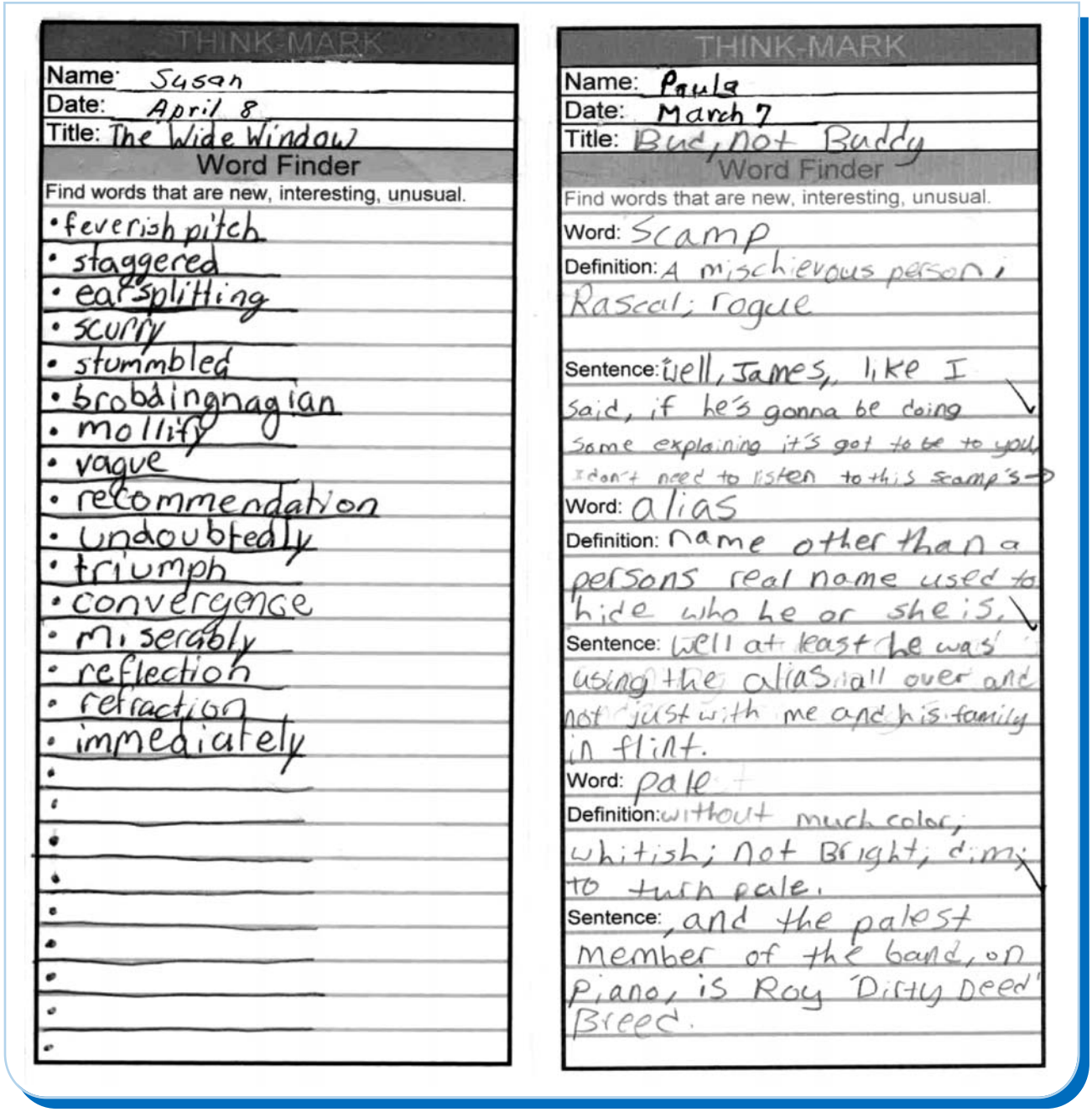
Research reveals that students learn words from linguistic context through immersion in a vocabulary-rich environment that includes books read independently and read aloud (Anderson, Wilson, & Fielding, 1988; Cunningham, 2005; Elley, 1989; Swanborn & de Glopper, 1999). Therefore, this component exposed students to the extensive vocabulary in children's literature (Hayes & Ahrens, 1988). We provided students multiple experiences with new and interesting vocabulary by reading aloud regularly, allocating considerable time for self-selected independent reading, conducting literature discussion groups, and exploring word choice and usage through writing activities.

Donna read aloud many chapter books (*A Long Way From Chicago*, Peck, 1998), titles that addressed the fifth-grade social studies curriculum of U.S. history (*The Blue and the Gray*, Bunting, 1996), poetry (Hughes's "Dreams," Rampersad & Roessel, 1994), and books that involved word play (*Miss Alaineus: A Vocabulary Disaster*, Frasier, 2000). She used picture books extensively, often to address specific objectives. For example, she read aloud *Two Bad Ants* (Van Allsburg, 1988) and *Exploding Ants* (Settel, 1999) to contrast fiction and nonfiction genres. Donna infused vocabulary work into read-alouds selectively and naturally. For instance, when reading aloud *Maniac Magee* (Spinelli, 1990), Donna addressed a state language arts standard on parts of speech by reproducing a section of the read-aloud on a transparency and having students identify Spinelli's use of lively verbs (e.g., *jammed*, *sneered*, *jutted*, *blinked*, *shrugged*, *sighed*). Students then worked with partners to read a sample of text and identify "strong verbs" on their own.

Students selected books for daily independent reading, which exposed them to a range of titles, genres, and new words. In a section of her reading log, Jessica listed titles as diverse as *Tuck Everlasting* (Babbitt, 1975), *Where the Sidewalk Ends* (Silverstein, 1974), *Philip Hall Likes Me. I Reckon Maybe* (Greene, 1974), and *The Zebra Wall* (Henkes, 1988). Donna used literature circles (Daniels, 2002) regularly; for example, in one round students could choose to read *Dear Mr. Henshaw* (Cleary, 1983), *Because of Winn-Dixie* (DiCamillo, 2000), *Bridge to Terabithia* (Paterson, 1977), or *Crash* (Spinelli, 1996). Students kept various records and logs of new or interesting words they identified as they read books. For example, drawing from Daniels's (2002, pp. 113, 118) Word Wizard and Vocabulary Enricher role sheets, Donna constructed Word Finder Think Marks—cards in the form of book marks on which students listed novel words (see Figure 1). These words subsequently became a source for group discussion and word study, and they found their way into students' written compositions.

Donna and her students maintained weekly dialogue journals (Hall, Crawford, & Robinson, 1997), within which they exchanged ideas about their independent reading. Donna introduced these at the beginning of the year by including a page in the students' journals (Fountas & Pinnell, 2001, p. 154) that explained the journal process and listed possible topics to address in their entries. Students' journal responses were varied and interesting. For instance, a student wrote, "I have been reading a book called [*The*] *Pinballs* [Byars, 1977]. I think that this book can teach us something about life: No matter where you are, you can control it." Donna responded, "You definitely picked up on what I think Betsy Byars was trying to tell her readers when she wrote this book." Dialogue exchanges often turned to word craft and usage. For example, in a reaction to *The Watsons Go to Birmingham—1963* (Curtis, 1995), Gary noted, "I think that Christopher Paul Curtis used very good descriptive language in that chapter. Does he always?"

Figure 1
Samples of Students' Word Finder Think Marks



THINK-MARK
Name: Susan
Date: April 8
Title: The Wide Window
Word Finder
Find words that are new, interesting, unusual.
- feverish pitch
- staggered
- earsplitting
- scurry
- stumbled
- brobdingnagian
- mollify
- vague
- recommendation
- undoubtedly
- triumph
- convergence
- miserably
- reflection
- refraction
- immediately

THINK-MARK
Name: Paula
Date: March 7
Title: Bud, not Buddy
Word Finder
Find words that are new, interesting, unusual.
Word: scamp
Definition: A mischievous person; Rascal; rogue
Sentence: Well, James, like I said, if he's gonna be doing some explaining it's got to be to you, I don't need to listen to this scamp's
Word: alias
Definition: name other than a persons real name used to hide who he or she is.
Sentence: well at least he was using the alias all over and not just with me and his family in flint.
Word: pale
Definition: without much color; whitish; not bright; dim; to turn pale.
Sentence: and the palest member of the band, on piano, is Roy 'Dirty Deed' Breed.

Daily writing workshop provided students opportunities to develop expressive vocabulary, and they often demonstrated intertextual links in their word choice. For instance, in a story titled "The Dreadful Elevator," Kenneth used the word *interminable* to describe a repeating elevator song that tormented his main character. Donna attributed Kenneth's usage to an earlier activity in which the class explored the meanings of interesting words Taylor used in *Roll of Thunder, Hear My Cry* (1976), with one of those being *interminable*.

Students demonstrated growth in word choice, as evidenced by a short story titled "Red Dust" that Sophie published. Sophie wrote her story after

learning about the Dust Bowl in the social studies textbook that included an excerpt from Stanley's book (1992) *Children of the Dust Bowl* and after reading a selection in her basal reader about Dorothea Lange's famous photos of the Dust Bowl. The following is an excerpt from Sophie's story, in which the main characters, Erica and Jonsohn, find a young girl named Evan they've befriended but who has died in a dust storm. Sophie demonstrates her growing sense of diction by including words such as *crumpled*, *trickle*, *protruding*, and *embraced*, as well as figurative expressions such as *choking back tears*, *eyes flooded*, and *soar the heavens* to express an appropriate mood and tone.

> I walked up and just stood there. I waited 'till Jonsohn caught up.
>
> "Oh, Erica, I'm so sorry...." Jonsohn said choking back tears.
>
> Evan. Evan Boot. Evan's lifeless body lay in a crumpled heap next to a wooden post.
>
> I could see a small trickle of blood protruding from her mouth.
>
> "No!" I cried. "She can't be!"
>
> "It's okay. Shh." Jonsohn embraced me, but I saw his eyes flooded with tears.
>
> I had just known her for four days. But those days came as four million.
>
> Evan. Come back.
>
> But I knew that [she] was gone. Gone to soar the heavens and never come back.

In summary, Donna's students demonstrated vocabulary growth through immersion in the world of books and through a variety of reading and writing activities.

Teaching Individual Words

Research indicates that students acquire new word meanings through explicit vocabulary instruction (Baumann, Kame'enui, & Ash, 2003; Beck & McKeown, 1991; Blachowicz & Fisher, 2000), and Donna provided lessons and activities that focused on specific words that connected to reading, writing, and subject-matter study. The class kept a Word Wall (see Figure 2) of interesting vocabulary (e.g., *infamy*, *scraggly*, *alias*) for discussion and writing, with students offering words from books they read (e.g., *gargoyles* from *Night of the Gargoyles* [Bunting, 1994] or *skedaddle* from *Charley Skedaddle* [Beatty, 1987]). Other Word Walls displayed content area vocabulary and words with affixes (Cunningham & Hall, 1998) that were used for teaching word structure.

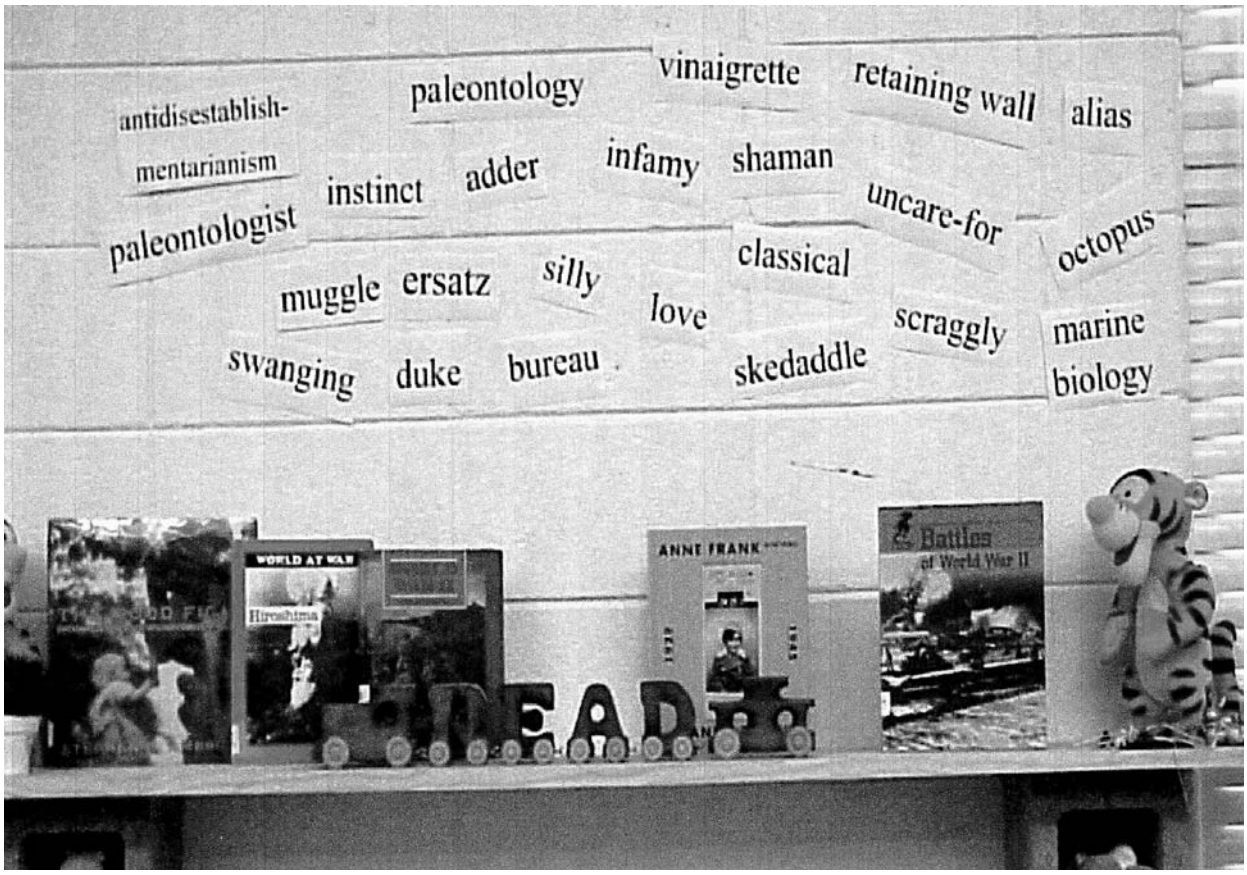
We encouraged students to be Word Wizards (Beck et al., 2002), so that they developed the habit of noticing and sharing interesting words that they encountered in school and in out-of-school contexts. For instance, Dennis shared *rummaged* after explaining how he had seen highway workers rummaging around in a van. Students also acted out word meanings. One time, when Clevon offered *ajar*, William spontaneously went to the door and cracked it open. *Ajar* is an example of a "memorable word"—a word a student came to "own" (Beck et al., 2002). When Donna read aloud a section of *Roll of Thunder, Hear My Cry* (Taylor, 1976), Jim wrote in his field notes, "Donna reads on in the book and comes across the word *ajar*, and everyone perks up." Donna responded later to Jim's comment, writing "It is amazing how many of the words do reappear in other contexts and how students pick up on them."

Literature was a rich source of vocabulary, providing students a means to mine words and bring them to the surface. For instance, before reading a section of *Bud, Not Buddy* (Curtis, 1999), Donna listed *devoured*, *paltry*, *knickers*, and *scrawny* on a paper and had students self-assess their word knowledge by checking one of three columns (see Table 2). Students then read to look for the words and discussed their meanings afterward.

Donna used other anticipation strategies, such as Nickelsen's (1998, p. 18) Predict-O-Gram, which requires students to hypothesize which words might fit within the categories of "setting," "characters," "action (problem)," "describing words," or "other." For example, prior to reading a chapter in *The Watsons Go to Birmingham—1963* (Curtis, 1995), Donna had students predict categories for *hostile place*, *vital*, *incapable*, *emulate*, and *intimidate*. Following the reading, the class revisited the Predict-O-Gram to check if their guesses were sensible. These kinds of activities sensitized students to think about and look for key vocabulary as they read.

Graphic organizers were key tools for learning specific word meanings, and Donna drew from various resources for ideas and examples (e.g., Allen, 1999; Blachowicz & Fisher, 2002). Donna and the students frequently created semantic maps (Heimlich & Pittelman, 1986) for fiction and nonfiction texts. For example, they mapped *imperialism* and *siege*, key

Figure 2
Portion of a Word Wall Displaying Vocabulary That Came From Books, Discussion, and Writing



Note. Photograph by Donna Ware.

Table 2
Students Self-Assess Word Knowledge Prior to Reading a Selection That Contains New Vocabulary

	I know the meaning of....		
	Very well	Somewhat	Not at all
Devoured			
Paltry			
Knickers			
Scrawny			

Note. Based on Dale and O'Rourke (1986) and Allen (1999).

Figure 3
Graphic Organizer Donna and the Students Constructed to Learn and Distinguish Specific Social Studies Concepts

terms in a social studies reading on early 20th-century U.S. history (see Figure 3).

Donna used a number of additional techniques for teaching specific words, often integrating them as brief word-study activities within the morning reading and language arts block. For example, following lessons on synonyms and antonyms, students compared words (e.g., Are you more afraid of a *vicious* dog or a *mischievous* dog?; Beck et al., 2002, chapter 5), and they ranked lists of words according to intensity (e.g., order *sickening*, *distasteful*, and *revolting*; Johnson & Pearson, 1978, p. 163). Donna used a related strategy called "linear arrays" (Allen, 1999, pp. 52–53), which required students to place words on a continuum. For instance, beginning with the word *puny* from *Bud, Not Buddy* (Curtis, 1999), students created the following array: *puny* → *frail* → *weak* → *sturdy* → *strong*. In sum, students acquired the meanings of specific words, enabling them to learn entirely new words and to develop enhanced meanings for familiar words.

Teaching Word-Learning Strategies

Research supports the practice of teaching students strategies for analyzing word-structure clues (i.e., root words, prefixes, suffixes, Latin or Greek roots) and context clues (Baumann et al., 2002; Baumann, Edwards, et al., 2003; Fukkink & de Glopper, 1998; White, Sowell, & Yanagihara, 1989) as ways to infer and acquire the meanings of unfamiliar words. Instruction in the use of resources such as the dictionary and thesaurus also promotes independent word learning (Graves, 2006). Drawing from our prior research (Baumann, Edwards, et al., 2003; Baumann, Font, Edwards, & Boland, 2005), we presented students with a chart of a general strategy, the Vocabulary Rule, which was adapted from Ruddell's (1999) Context-Structure-Sound-Reference strategy:

Vocabulary Rule

When you come to a word, and you don't know what it means, use

1. *Context clues*: Read the sentences around the word to see if there are clues to its meaning.
2. *Word-part clues*: See if you can break the word into a root and prefix or suffix to help figure out its meaning.
3. *Context clues*: Read the sentences around the word again to see if you have figured out its meaning. (pp. 151–152)

Jim introduced the Vocabulary Rule using excerpts from *The Pinballs* (Byars, 1977) to demonstrate how "twisted angry faces" provided context clues to the meaning of *gnarled* (p. 25) and how knowing the meaning of the prefix *un-* helped determine the meaning of *unpleasant* (p. 41). We then provided students more elaboration on word-part clues through the following chart (adapted from Baumann, Edwards, et al., 2003):

Word-part clues

1. Look for the *root*: the basic part of a word. It might be a whole word (e.g., *happy*) or a meaningful part of a word (e.g., *vis-*, *vid-*).
2. Look for a *prefix*: a word part added to the beginning of a word that changes its meaning (e.g., *un-*, *in-* = "not").
3. Look for a **suffix**: a word part added to the end of a word that changes its meaning (e.g., **-ness** = "state or quality of"; **-ible**, **-able** = "capable of").
4. Put the meanings of the root and any *prefix* or **suffix** together and see if you can build the meaning of the word (e.g., *un*happy, happi**ness**, *un*happi**ness**, *vis*ion, *vis***ible**, in*vis***ible**, tele*vis*ion, *vid*eotape, *vivid*, *evid*ent).

To provide a memorable structure for students to learn and recall high-frequency prefixes and suffixes (White et al., 1989), we organized them into clusters, or "families," which we displayed in the classroom (see Table 3) and taught through a series of lessons.

Table 3
Prefix and Suffix "Families" Taught in Word-Part Instruction

Prefix and suffix families			
Family	Prefix or suffix	Meaning	Example words
"Not" prefix family	dis-	not, opposite	dislike, disloyal, disentangle, disparity, disrepute
	un-	not, opposite	unafraid, unhappy, undefeated, unsympathetic
	in-	not, opposite	invisible, incurable, inappropriate, inedible, infallible
	im-	not, opposite	imperfect, impolite, imprecise, immobile, immortal
	il-	not, opposite	illogical, illegal, illiterate, illegible, illimitable
	ir-	not, opposite	irresponsible, irreplaceable, irresistible, irrelevant
	non-	not, opposite	nonfiction, nonstop, nonliving, nonviolent, nonverbal
"Position" prefix family	pre-	before	preview, predawn, prehistoric, prepublication
	fore-	before	forewarn, foreleg, forenoon, forethought, foreshadow
	mid-	middle	midnight, midair, midland, midlife, midterm
	inter-	between, among	intercity, intermix, interaction, international, intergalactic
	post-	after	postwar, posttest, postdate, postoperative
"Over" and "Under" prefix family	super-	over, high, big, extreme	superheat, superhuman, superdeluxe, supercompetitive
	over-	more than, too much	oversleep, overload, overheat, overqualified, overexert
	sub-	under, below	subset, substation, subcontinent, subtropical
"Together" prefix family	com-	together, with	compress, composition, compatriot, compassion
	con-	together	conform, concentric, conjoin, configure
	co-	together, with	coauthor, cosign, coequal, cooperate
"Bad" prefix family	mis-	bad, wrong, not	misuse, misread, misunderstand, mismanage, misquote
	mal-	bad, ill	maltreat, malodor, malnourished, maladjusted
"Against" prefix family	anti-	against	antifreeze, antibiotic, antisocial, antipollution
	contra-	against, opposite	contraband, contradict, contraindicate, contravene
"Number" prefix family	uni-	one	unicycle, unicorn, unidirectional, unicellular
	mono-	one	monorail, monosyllable, monogram, monotone, monocle
	bi-	two	bicycle, biweekly, bicolor, biplane, binomial
	tri-	three	triangle, tricycle, tricolor, triathlon, tripod
	quad-	four	quadrilateral, quadruplets, quadrennial, quadrangle
	penta-	five	pentagon, pentameter, pentagram, pentathlon
	dec-	ten	decagon, decade, decapod, decibel
	cent-	hundred	centimeter, centipede, centennial, centigram
	semi-	half, part	semicircle, semiyearly, semiprivate, semiretired
Other useful prefixes	re-	again, back	redo, reorder, rearrange, reposition, reconnect
	trans-	across, through	transport, transatlantic, transmit, transfusion
	de-	take away	defrost, deforest, deodorize, deflate, deactivate
	ex-	out of, away from	export, exhale, extinguish, exclude, excise
	under-	low, too little	underweight, underachieve, underestimate, underappreciated
"Person" suffix family	-ee	person who	employee, referee, trainee, interviewee
	-er	person/thing that does something	writer, teacher, composer, reporter, consumer
	-or	person/thing that does something	actor, governor, dictator, juror, donor

(continued)

Table 3
Prefix and Suffix "Families" Taught in Word-Part Instruction (continued)

Prefix and suffix families			
Family	Prefix or suffix	Meaning	Example words
Other Useful Suffixes	-ful	full of, characterized by	joyful, beautiful, successful, delightful, pitiful
	-able	can be, worthy of,	valuable, comfortable, dependable, impressionable
	-ible	inclined to	terrible, responsible, reversible, compatible
	-less	without, free of	helpless, hopeless, bottomless, expressionless

Note. From Baumann et al. (2005).

For instance, in a lesson on the "Not Family," Elizabeth taught students to disassemble words, identify the prefixes and roots (e.g., *il-legal*, *ir-responsible*), and reassemble them to construct their meanings. Students then added the "Not Family" members to their "Affixionary" notebooks (Blachowicz & Fisher, 2002; Lindsay, 1984), within which they listed prefixes and suffixes, their meanings, and example words and sentences.

We used the following chart to teach context clues and how to integrate them into the Vocabulary Rule:

> *Context clues*: Ideas or hints about the meaning of a word in the words and sentences around the word.
>
> - Look for context clues both *before* and *after* a hard word. Sometimes they are close to a word, but other times they may be several sentences away.
> - Some context clues will be strong or really obvious but others will be weak. Sometimes context even might be confusing or misleading.
> - Use the Vocabulary Rule: (1) use context, (2) look for word-part clues, (3) use context again to check meaning.

We taught five context clue types—definition, synonym, antonym, example, and general (Dale & O'Rourke, 1986; Johnson & Pearson, 1978)—and presented them with examples (see Table 4). For each context clue type and other word-learning strategy we taught, we used an instructional framework that included verbal explanation, modeling, guided practice, and independent practice (Duke & Pearson, 2002; Hunter, 1982). For instance, when teaching synonym context clues, Jim explained the strategy using the following example: "Captain Jackson's uniform was *impeccable*. In fact, it was so *perfect* that she always had the highest score during inspection." Jim then modeled synonym context clues using an excerpt from the magazine *TIME for Kids* ("hieroglyphics" and "picture writing"). For guided and independent practice, Jim monitored students' work in groups, in which they had to (a) predict the meanings of *predators*, *invasive*, and *foreign*; (b) read an article to identify context clues for each word; and (c) write the meanings of the words from the context clues. For *predators*, one group wrote "something that is weird" (prediction), "hungry, eat anything they could fit in their jaws" (clues from selection), and "an animal that hunts and eat[s] another for food" (word meaning).

We also taught word-part clues through the use of Cunningham and Hall's (1998) Nifty Thrifty Fifty—a list of words that contains examples of common prefixes and suffixes (e.g., *compos-er*, *im-possible*, *encourage-ment*) to promote word building and spelling. For additional instruction in context, Donna used Kiester's (1990) *Caught'Ya!*, a daily grammar activity that included a low-frequency word (e.g., *vilify*) that often contained useful context clues (e.g., *insulted*). In summary, we provided students explicit instruction and practice activities on how to use word-part and context clues to infer the meanings of novel words.

Fostering Word Consciousness

Word consciousness involves "an awareness of and interest in words and their meanings" (Graves, 2006, p. 7). Various inquiries document that when teachers engage students in word play and promote their metacog-

Table 4
Five Context Clue Types Taught in Word-Learning Strategy Lessons

Context clues	
Context clue type	Example
1. **Definition:** the author explains the meaning of the word right in the sentence or selection.	When Sara was hiking, she accidentally walked through a patch of **brambles**, *prickly vines and shrubs*, which resulted in many scratches to her legs.
2. **Synonym:** the author uses a word similar in meaning.	Josh waked into the living room and accidentally tripped over the **ottoman**. He then mumbled, "I wish people would not leave the *footstool* right in the middle of the room. That's dangerous!"
3. **Antonym:** the author uses a word nearly opposite in meaning.	The supermarket manager complained, "Why do we have such a **plethora** of boxes of cereal on the shelves? In contrast, we have a real *shortage* of pancake and waffle mix. We've got to do a better job ordering."
4. **Example:** the author provides one or more example words or ideas.	There are many members of the **canine** family. For example, *wolves, foxes, coyotes*, and pets such as *collies, beagles, and golden retrievers* are all canines.
5. **General:** the author provides several words or statements that give clues to the word's meaning.	It was a **sultry** day. The day was very *hot and humid*. If you moved at all, you would *break out in a sweat*. It was one of those days to *drink water* and *stay in the shade*.

Note. Words in italic provide context clues for bold words.
Note. From Baumann et al. (2005).

nitive knowledge about word use, students acquire an interest in words, develop an appreciation of word choice, and expand their vocabulary (Graves & Watts-Taffe, 2002; Scott & Nagy, 2004). We implemented this category through activities that addressed word play and figurative language (Blachowicz & Fisher, 2004; Johnson, Johnson, & Schlichting, 2004). Our Learning About Words and Language chart (see Table 5) provided definitions and examples (drawing from Johnson, 1999 and Johnson, 2001) for 13 such items.

We relied on this chart for informal lessons. For instance, Donna's love of poetry led naturally to inquiry activities involving authors' use of alliteration. She shared examples with the students from Prelutsky's (1983) "The Hippopotamus" ("The huge hippopotamus hasn't a hair") and Tennyson's (1851) "The Eagle" ("He clasps the crag with crooked hands"). Students also composed their own alliterative sentences (e.g., "Alice Alligator ate another ant." "Lucy loves luscious lollipops."), and they looked for examples in books they read and included alliterative phrases in compositions they created.

Donna used read-alouds and shared readings to explicitly teach ways authors used language to help readers form mental images. For example, Donna reviewed figures of speech and demonstrated how Curtis's (1995) language in *The Watsons Go to Birmingham—1963* was more engaging than "plain language." She composed and wrote the sentence, "They went into the living room," and then had students compare it to Curtis's metaphorical text, "They danced into the living room" (p. 67). Donna wrote "Momma's voice got strange" versus Curtis's use of simile, "Momma's voice got strange, hissing like a snake" (p. 68). Donna reviewed other examples of figurative language, and students worked in small groups to find additional instances of similes, metaphors, hyperbole, onomatopoeia, and alliteration from *The Watsons*.

Elizabeth conducted several lessons on how language is enriched by the addition of informal words. In one lesson, she invited students to interview family members about slang terms. The class created a chart listing the persons interviewed, the slang terms

Table 5
Chart Used for Listing and Teaching Various Word Play and Figurative Language Elements

Learning about words and language		
Category	Definition	Examples
Synonyms	Words that are similar in meaning	fight, quarrel, argument, squabble, altercation, beef, feud, brawl, fray, scuffle
Antonyms	Words that are opposite or nearly opposite in meaning	hot/cold, night/day, warm/chilly, boisterous (loud)/placid (quiet)
Homophones	Words with the same pronunciation but different spellings and meanings	night, knight rode, road, rowed
Alliteration	Repeating the beginning sounds of words	Five famished foxes feasted on fifty fresh fish.
Slang	Informal words added to our language	chopper (helicopter), hacker (computer intruder), 24/7 (all day, every day), iffy (not certain)
Simile	Comparing two different things using the words *like* or *as*	*Ann* runs like a *deer*. The *cookie* was as hard as a *rock*.
Metaphor	Comparing words or ideas in a figurative way	*Josh* is a walking *encyclopedia*. The *tennis court* was a *griddle*.
Hyperbole	An exaggerated statement	Tommy ate a ton of pizza. It took me a million years to clean my room.
Idiom	A saying that does not mean the same as the individual words	It's raining cats and dogs. Now you'll be in hot water.
Oxymoron	Using words together that have opposite or very different meanings	Mom believes in *tough love*. Please grab me some *plastic silverware*.
Homograph	Words with the same spelling but different meanings and sometimes different pronunciations	the *bear* growled/could not *bear* it a *bow* tie/take a *bow* *conduct* the band/have good *conduct*
Acronym	Abbreviations using the first letters of words	USA = United States of America ATM = automatic teller machine
Personification	Attaching human qualities to animals, ideas, or things	The *kite danced* in the wind. My *report card beamed with pride* as Mom looked at my straight As.

Note. Adapted from B. Johnson (1999) and D. Johnson (2001).

that were offered, their meanings, and when they were used. Entries (see Figure 4) included one dad offering *far out* as *awesome* from the year 1974, and a grandma providing *toodle-loo* as *good-bye* from 1938. In conclusion, we promoted an appreciation for the color and elegance of language. For example, one student demonstrated this playfulness—and some obvious humor—by writing the following on a paper requiring students to create hyperboles: "This sheet is taking so long to do that I'm going to have a beard by the time I finish."

What We Learned

Quantitative results demonstrated that students' word knowledge grew. A comparison of pretest and posttest results of the *Expressive Vocabulary Test* (Williams, 1997) revealed that students' expressive, or speaking, vocabulary grew more than expected across the intervention period. Results from the *Peabody Picture Vocabulary Test* (Dunn & Dunn, 1997), a measure of receptive or listening vocabulary, suggested that the students initially below average in vocabulary may have benefited from the program more than students

Figure 4
A Portion of a Class Poster Displaying Slang Terms From Family Members

Relation	Slang Used	Meaning	Year
Dad	far out	awesome	1974
Granny	far out	awesome	1980
Mom	groovy	awesome	??
Mom	what's up	How are you doing?	1980-85
Uncle	Hey, sweetie	Greeting for a female	??
Grandma	toodle-loo	Saying good-bye	1938
Mom	conflabbit	oh, shucks	1994
Mom	you-go-girl	When a girl does a good job	1975
Dad	cool	It's all right	1965
Sister	off the chain	very exciting	1999-2000
Sister	thick	a crowd of people	2002-03
Sister	dang	whoa	1995
Cousin	shoudy	what's up	2000
Mom	Pig Latin	talking funny	??
Grandpa	tooky-pook	term of endearment	1992-2002
Mother	out-of-the-loop	uninformed	1990
Dad	Yeah	yes	1974
Mom	crazy	wild	1979
Father	been there, done that, got the t-shirt	already been through that	1996

initially above average in vocabulary. Writing sample results indicated that students used 36% more words in the spring writing sample compared to the fall sample, and the number of low-frequency words they included in their essays grew by 42% from fall to spring. As per a written questionnaire, parents' spring ratings were higher than fall ratings with regard to their assessment of their children's vocabulary size and how often their children talked about learning vocabulary. Results from a student questionnaire revealed fall-to-spring growth on items assessing their self-reported interest in reading, writing, and vocabulary.

Qualitative findings revealed three main themes:

Theme 1: Students Used More Sophisticated and Challenging Words. Students selected novel words from various sources to add to the Word Wall (e.g., *ersatz*, *vinaigrette*). For instance, William offered *hypertension* and explained that a family member had "high blood pressure." Students also identified novel or interesting words from books, listing, for example, *sinewy*, *dwarfed*, *formidable*, *gusto*, *tawny*, *ornate*, and *penetrated* while reading *Roll of Thunder, Hear My Cry* (Taylor, 1976). Donna noted in her journal that "Today Donald put a book back on the shelf, making the comment that the word *bewildered* was all though that book." She also commented that a student "shared with me that he used the word *urn* in his story. He encountered this word in one of his independent reading books."

Theme 2: Students' Interest and Attitudes Toward Vocabulary Learning Increased. Gary informed Donna that he wrote *gab* in his Vocabulary

Log after reading it in one of Brian Jacques's books. Overhearing this conversation, Richard noted "That's what we do—we gab a lot in class!" In response to the questionnaire item, "How important is it for a reader to have a large vocabulary," a student provided no response in the fall but wrote, "It is very important. Without a big vocabulary you wouldn't be able to read that well" in the winter, and commented in the spring that, "Without a large vocabulary I couldn't read the book[s] I read." Several parents noted changes in their children's vocabulary, writing, "Vocabulary has gotten better," "Enjoys learning new words," and "Shares words and books more often."

Theme 3: Students Demonstrated Use of Word-Learning Tools and Strategies Independently and Engaged in Word Play. Students used vocabulary resources. For example, Donna noted, "we read the word *lethargically* and Dennis grabbed a dictionary to look it up." Catherine stated that the charts displayed in the classroom helped her, and Gary found that the Word Wall got him "in the habit of trying to find those words." Students also demonstrated word-learning strategies. Following a lesson on context clues, a student noted that the author used *sad* as a synonym clue for *melancholy*. Kendra reported that, "I learned some oxymorons, hyperbole, slang, and alliteration." Students engaged in word play. One student told Donna, "I have a word problem," and he wrote the word *America* in bubble letters with the word *made* inside it, to which Donna responded, "Oh, 'Made in America.'"

Final Thoughts

It was our intent to explore the impact of a program based on Graves's (2000, 2006) four components of effective vocabulary instruction on students' word knowledge and appreciation. We found that by immersing students in a vocabulary-rich environment and providing them instruction in words and word-learning strategies, they developed greater breadth and depth of vocabulary knowledge, as demonstrated by Richard's statement near the end of the school year:

> Before I came to fifth grade, if I read a word that I didn't know, I wouldn't take the time to stop. I would just go straight through it. I'd read it and I'd just try to sound it out.... But now I don't have to do that. I use context clues and everything...so if I find a word I don't know, I stop and think about it for a while and then I go on if I figure out what the word means.

Richard also commented on his growth in writing and use of vocabulary resources:

> First I thought my stories were really good, but they were really plain because I...didn't have any new words in there.... [Now] if I want to change the word—like this is really plain and I want to find a new word that's better than this that means almost the same but is different—that's when I started using a thesaurus. When...I came to fifth grade I had no clue what a thesaurus was. I didn't know what an antonym was. I didn't know what a synonym was. I didn't know what a metaphor was.

In a recent theory-to-practice review, noted vocabulary researchers Blachowicz, Fisher, Ogle, and Watts-Taffe (2006) stated that "the current burgeoning interest in vocabulary, coupled with documentation of less-than-robust classroom practice, has left conscientious teachers with many questions about how to design and implement effective instruction" (p. 524). In our formative experiment, Richard and his classmates demonstrated an enhanced understanding of, sensitivity to, and appreciation for the nuanced uses of words in texts they read and wrote; they discovered, that is, the value of "spicy, tasty words that catch your tongue." We believe that our work begins to provide answers to at least some of the questions that conscientious teachers have about constructing and employing effective, classroom-based vocabulary instruction.

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