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Here are four original word study units that teachers can easily implement themselves.

Students can become excited about language and how it works if the topic is presented in an active and engaging manner. However, many upper elementary and middle school teachers are uncertain about the value of word study and how to incorporate it into their classroom curriculum. Upper level word study focuses on the structure and meaning of words by drawing students' attention to spelling patterns and word roots. For example, a typical lesson might involve students sorting *need*, *knead*, *pear*, *pare*, and *pair* to identify vowel patterns as well as spelling-meaning relationships. Another word study activity might be students examining assimilated prefixes (e.g., *irregular*, *illegal*, *impossible*) to help them understand how the spelling of the prefix *in* changes across words yet maintains consistency of meaning. Word study can support students' development as readers and writers (Bear, Invernizzi, Templeton, & Johnston, 2000; Invernizzi, Abouzeid, & Gill, 1994; Templeton & Morris, 1999) and facilitate vocabulary, grammar, and spelling growth (Bear & Templeton, 1998; Invernizzi, Abouzeid, & Bloodgood, 1997).

Many teachers, especially teachers of older students, do not make word study a part of their instruction. Some perceive it as a fancy version of traditional spelling instruction that uses manipulative activities and games, which often appears to be supplemental rather than essential learning. In addition, the ongoing pressure of curricular and testing demands leaves little room for spelling instruction. Another issue may be teachers' limited knowledge

about the structure of their native language and the developmental nature of its spelling system (American Federation of Teachers, 1999; Gill & Scharer, 1996; Moats, 1995; Morris, Blanton, Blanton, Nowacek, & Perney, 1995). However, teachers do not have to become word study experts in order to use incidental word study activities for intermediate grades.

In this article we describe word study activities developed in response to a small research study involving preservice and practicing teachers. We begin with a brief description of word study components and the stages of word-knowledge development. This is followed by an explanation of the research study and how it led us to develop an incidental rather than systematic word study approach. Next we describe four units teachers can use for incidental word study: (a) Root of the Day, (b) Homophones for Within Word Pattern, (c) Homographs for Syllable Juncture, and (d) Word Endings for Derivational Constancy. These activities can be used for instruction and reinforcement of specific aspects of word knowledge and have the supplemental benefits of stimulating language curiosity. Finally, we offer conclusions on the value of incidental word study to teachers and students.

Spelling is but one of the many aspects of word knowledge (Bear et al., 2000). Oral language concepts and vocabulary are the base for written-language development; students build reading, writing, and spelling concepts on this foundation. These abilities, along with written vocabulary and grammar, are interrelated and contribute to word

knowledge. Teachers who address word-knowledge components as integrated features rather than isolated subskills encourage students to make connections across sources. Many teachers incorporate spelling with the editing portions of their writing process (Cramer, 2001; Rief, 1992), but they may fail to point out the regularity of spelling patterns or the spelling–meaning relationships evident in the words (Johnston, 2000/2001). Often, they are unaware of these concepts themselves (Bloodgood, Pacifici, & Rullman, 2001). Others feel frustrated when students fail to transfer spelling to writing (Gill & Scharer, 1996). Many upper elementary and middle school teachers find little time for systematic spelling instruction (Templeton, 2002), and, as a result, they fail to make important connections that help students see the bigger word-knowledge picture and improve all written language areas.

Research based on the work of Read (1971) and Henderson (1990) has led to the identification of several levels of word-knowledge development that reflect students' understandings of how sound, pattern, and meaning are represented in English spelling. Each stage involves particular orthographic features that occupy students' attention and indicate what individuals understand about the spelling system (see Bear et al., 2000, for more information on stages). Thus, students (typically second through fourth graders) who misspell single-syllable, long-vowel words (e.g., *bote* for *boat*) and homophones (e.g., *plane* for *plain*) would be considered Within Word Pattern spellers, while others (often third through sixth graders), who struggle with when to double the final consonant before adding *-ing* (e.g., *scrapping* for *scraping*), would fit into the category of Syllable Juncture spellers. Derivational Constancy spellers (usually fifth graders to adults) face the challenge of words derived from Greek and Latin roots (e.g., *photograph*, *photographer*; *compete*, *competition*) in which consistency in spelling denotes meaning connections even when pronunciations change. Analysis of spelling errors informs teachers of students' word-knowledge level and appropriate instruction (Bear et al., 2000; Ganske, 2000; Invernizzi et al., 1994).

Intermediate-grades teachers can find activities that integrate spelling with grammar and vocabulary instruction (Cramer, 1998).

In our initial research, we sought to understand how classroom teachers view and implement word study. The research project was conducted with a limited voluntary sampling of teachers and preservice teachers enrolled in U.S. university reading and language arts courses across two semesters. Our two research questions were What factors affect the use of word study activities? and How do teachers implement word study?

Data collection and analysis

Thirty-five respondents (18 undergraduates, 17 graduates) completed surveys, journal reflections, or action research projects as part of two undergraduate and two graduate reading courses. In addition, we conducted school visits to three classrooms and did follow-up interviews with the teachers. Using Glaser and Strauss's (1967) constant comparative method, we analyzed the data for consistent themes and categories. There were two major issues: the pros and cons for implementing word study in the classroom and the three levels of awareness of word study instruction.

Results

Participants identified a number of positive and negative aspects for implementing word study. On the positive side, preservice teachers recognized the benefits of word study for vocabulary development, while teachers made additional connections to phonics, reading and writing, and ESL concept and vocabulary development. The teachers were very aware that word study activities could effectively meet students' diverse instructional needs. Preservice teachers enjoyed the hands-on, interactive, discovery–learning aspects of the activities but were uncertain about practical aspects of implementation.

On the negative side, the teachers and preservice teachers groups expressed concerns about implementing word study in their classrooms. The pressure to cover curriculum content presented time constraints for preparing materials for word

study as well as for fitting it into the daily schedule. One K-6 Title I reading teacher wrote, "I was concerned that there would be no way I could pull off working with words, writing, and reading within my limited time frame, but I have found that with careful planning and efficient time management it works well." Many participants wrote of their professional limitations with word study, noting that they felt uncomfortable using it due to insufficient knowledge, experience, and practice. Some teachers were worried about managing the materials and multiple student groups. Finally, fear of parental concerns was a factor against word study implementation. Respondents wrote that parents understood traditional spelling homework and believed they could help their children with it. However, they were worried that parents did not understand word study and could think it was too easy and less meaningful.

Responses also suggested three levels of understanding about word study: (a) theoretical, (b) contextual and practical, and (c) reflective. Teachers with a theoretical understanding of word study grasped it at a rote mental level; word study was "in my head" but not necessarily applied to classroom practice. Word study was understood as relevant only for vocabulary work. These respondents were unable to see the payoff from adding word study to their curriculum, given the time and energy needed to learn about and prepare for it.

At the practical and contextual level, many teachers understood the *how* and *why* of word study as it was "in my head, in my planning, and in my students' hands" but believed they had limited flexibility to make it part of their instruction. This was due to curricular and testing pressures and district mandates to use a set program implemented in a prescribed manner. Teachers wrote that vocabulary development was a major instructional need and the "concreteness" of word study enhanced the learning of word meanings. However, one fourth-grade teacher used word study in place of a district-mandated spelling program in which students took a pretest on Monday and memorized five words for Friday's test. This was the extent of instruction. The majority of the grades each week were failing ones because most of the students did not look at the words after the pretest. The teacher found improvement in attitude and learning with word study: "The students are seeing that the words in

each week's sort have a connection and are not just random words thrown out to them to memorize." This teacher was still not satisfied with her word study implementation but was determined to continue working on it. As one middle-grades teacher of English as a second language wrote, "[I'm] not quite comfortable with Syllable Juncture issues, but I feel I had to just go ahead and do it."

On the reflective level, teachers developed a deeper understanding of word study as they became more comfortable making changes to fit individual situations. These teachers were interacting with word study as their students used it daily. When they developed a better grasp of how word study worked and how to match the activities to students' needs, their confidence and skill grew. A seventh-grade teacher wrote, "I am starting to feel more confident in my ability to successfully implement word study within the middle school classroom." A fourth-grade teacher commented, "For once spelling and word study are fun for the students and enjoyable for [me]. I am sure that I will improve as a facilitator as I continue to learn and work out the kinks."

Teachers working at the reflective level integrated word study with reading, poetry, grammar, and content area study. One respondent in a poetry unit created instructional connections between the structure of cinquain poems and parts of speech, character traits, and word study. While focusing on grammar and vocabulary, spelling became a secondary concern. A reading teacher responded, "[Students] felt they had a better grasp of how words are used, and one replied, 'I've learned how to spell better in this class.' Incidental learning!" Teachers reported that students became aware of word features and were excited about word study. One middle-grades reading teacher said, "Judging from the students' responses and eagerness to figure out the parts of speech, I agree that helping students realize that spelling represents meaning and parts of speech is a necessary companion of reading." These teachers had directly experienced the benefits for their students. A seventh-grade teacher wrote, "Now they come into class excited about word study. They come in on Monday now and go, 'Mrs. B., what features are we doing this week?'"

Often teachers working with intermediate students found themselves caught between the microanalysis of vowel study and the ambiguity of

Syllable Juncture. Word study activities provided a tool to meet this tricky stage of word-knowledge development. A middle-grades reading teacher wrote,

I have used this approach in my classroom for some time now, and I have found that it is an extremely useful technique for teaching students to spell, read, and write.... [U]pper level spelling, which deals with an understanding of root constancies in relation to meaning of words, was most useful for me because I struggle with what to do with those who are working beyond long vowels, irregular vowels, and adding suffixes.

Conclusions from the study

Study participants indicated that word study activities were informative and exciting. Teachers and students developed interest in word origins, spelling–meaning relationships, and grammatical connections. In addition, they benefited from expanded vocabularies and effective strategies to make sense of how written language works. The hands-on, engaging activities helped participants go beyond memory to apply logic and critical thinking to spelling as well as to vocabulary and syntax. Grammar points could be examined in relation to meaning units and spelling patterns. For example, when students added *-ing* or *-ed* to verb base words (e.g., *chat*, *talk*, *state*, *exclaim*), they discovered that tense and sometimes spelling changed with the added morpheme. The final consonant doubled (e.g., *chatting*) in words with the short-vowel, consonant–vowel–consonant pattern; the final *e* was dropped (e.g., *stated*) with a long-vowel, vowel–consonant–silent *e* pattern; while short-vowel bases with two ending consonants (e.g., *talking*) and long-vowel bases with vowel pairs (e.g., *exclaiming*) did not change. Progressive (*-ing*) and past tense (*-ed*) morpheme units changed the base-word meaning and spelling in subtle ways that could be called to students’ attention through word study. This activity provided an opportunity to explore synonyms, register, and connotations of words also.

We learned that teachers need a gradual introduction to word study and time to build their confidence, knowledge base, and implementation strategies. This fact provided the rationale and motivation for us to develop several short, integrated word study units that intermediate-grade teachers could implement. We use the word *incidental* for these activities because they are not part of an ex-

tended curriculum; rather, they fit easily into brief periods in the school day and connect to, but are not bound to, other aspects of the language arts program.

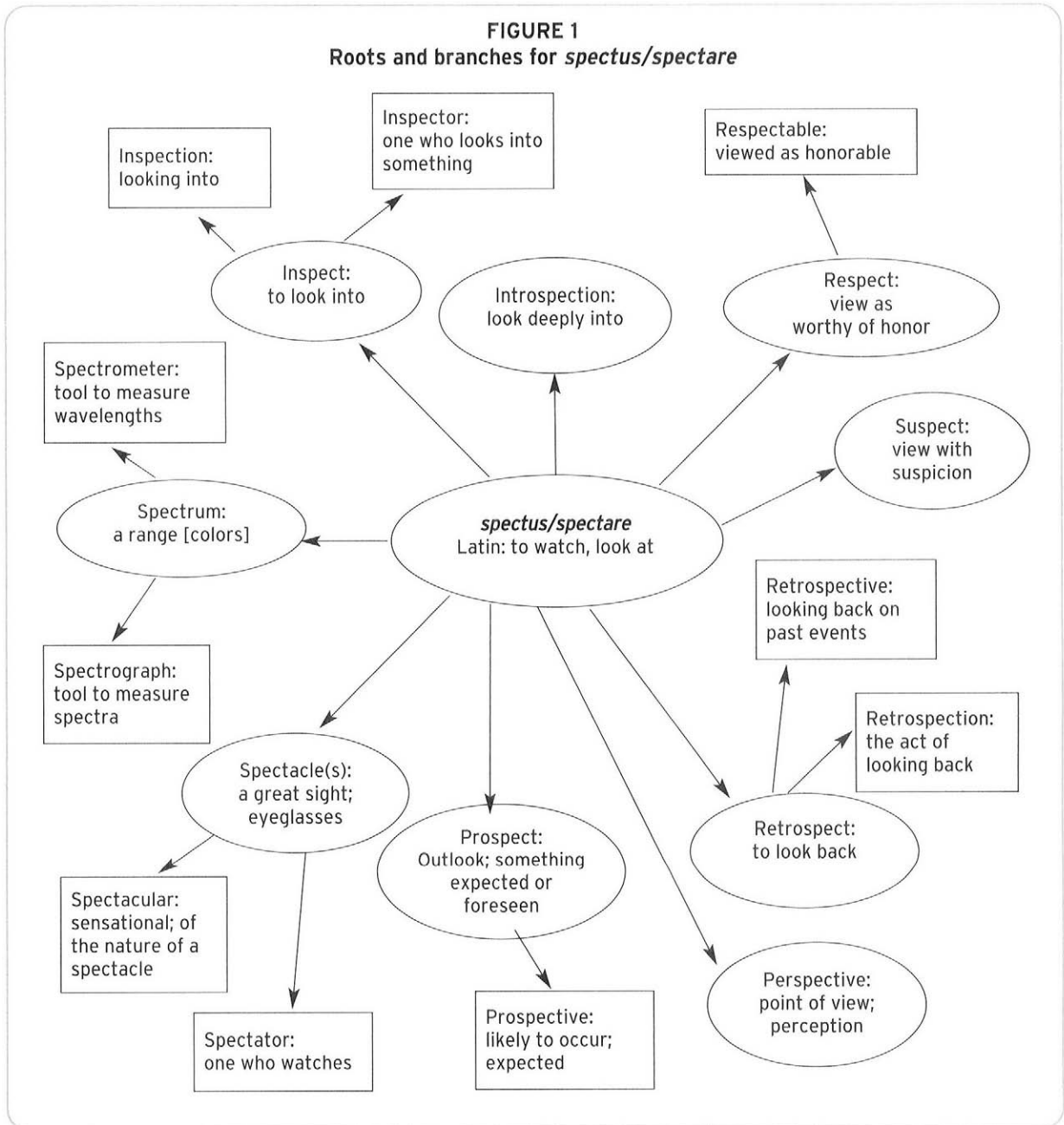
Implications for practice

While incidental word study activities like Root of the Day and Homophone Rummy are insufficient to help preservice and practicing teachers become linguists, the brief daily experiences with words may serve to pique curiosity, thus encouraging teachers and students to learn more about their language. These activities improve spelling, vocabulary, and written grammar without relying totally on memory and drill. A systematic approach to word-knowledge instruction certainly would be best, but given the mitigating factors of limited time, uncertain knowledge, and lack of materials, upper elementary and middle-grades teachers may be more comfortable using an incidental approach to capture key word-knowledge elements (e.g., homophones, grammar–word ending relationships). Whole classes become “word nerds” without realizing they have been hooked.

Daily root activities

A useful incidental word study activity is Root of the Day. Students from third or fourth grade and up enjoy creating a list of words derived from a specific Greek or Latin root (e.g., *bios*, *photo*; *tractus*, *dictus*) provided by the teacher. *The New Reading Teacher’s Book of Lists* (Fry, Fountoukidis, & Polk, 1985), *Word Journeys* (Ganske, 2000), and *Words Their Way* (Bear et al., 2000) provide extensive lists of root words and their meanings. If the root is placed on the board at the beginning of the day (e.g., *dictus*), students can add words to the list (e.g., *diction*, *dictionary*, *predict*, *dictator*) while the teacher attends to early morning routines. Later in the day, students can discuss their hypotheses about the root’s meaning based on the words they have listed and their commonalities. The activity provides an interesting way to extend vocabularies and develop strategies for discovering word meanings from known roots. In addition, common prefixes and suffixes and their meanings can be discussed, as well as their connections to parts of speech. Finally, volunteers can check the meanings and derivations of selected words in the dictionary to pinpoint the root meaning

FIGURE 1
Roots and branches for *spectus/spectare*



and the true derivatives of it. Students may record these activities in notebooks, which will then serve as a resource for writing. The most exciting graduate class discussion we had evolved when we identified *station*, *prostitute*, and *constitution* as derived forms of the Latin root *sto, stare, status*.

A variation of this activity, Roots and Branches, involves placing a root word in the center of a web or

tree trunk created on chart paper. Students, in groups of three to five, record derived words around the root or on branches in one marker color and then use the dictionary to find word meanings, which are recorded in another color. (Figure 1 shows an example of a Roots and Branches chart.) *The American Heritage Dictionary of Indo-European Roots* (Watkins, 1985) is a valuable resource when searching for word

origins and relationships. A natural extension of Roots and Branches can occur in sixth-grade studies of Greek mythology. Students can find words in the English language derived from the names of Greek and Roman gods and goddesses (e.g., *hydrant* and *hydroponics* from Hydra).

Root of the Day

Root of the Day is a daily activity that requires little time or preparation and builds interest in language. Teachers who have built interest in word study and want to extend its application should become familiar with common routines that support students' developing understanding of word features and grammatical connections. Several core activities in the incidental word study units described later are word sorting, word hunts, and games.

Word sorting—categorizing a selected group of words by specific features to highlight a contrast—serves as the central activity in word study. Sorts should be designed to help students discover why spellings work as they do. For example, gathering a group of short and long *i* words (e.g., *time*, *stick*, *flight*, *miss*, *wild*, *blimp*, *try*, *guide*, *find*, *knight*, *fly*) and sorting them first by sound reveals that short *i* words contain one vowel and have a consonant–vowel–consonant syllable structure:

short <i>i</i>	long <i>i</i>			
stick	time	sky	guide	find
miss	wild	stripe	sigh	try
blimp	child	fly	knight	flight

Sorting again by pattern unveils four long-vowel patterns for *i*: vowel–consonant–silent *e*, *igh*, *i* consonant–consonant, and *y*.

short <i>i</i>	<i>i</i> -consonant- <i>e</i>	<i>igh</i>	<i>i</i> consonant-consonant	<i>y</i>
stick	time	flight	wild	try
blimp	guide	knight	find	fly
miss	stripe	sigh	child	sky

As students discuss these patterns and generalize them to other words they encounter in their reading and writing, they begin to grasp some of the logic and regularity of English orthography. This activity may raise the question of why an ostensibly short-vowel pattern (consonant–vowel–consonant–consonant;

e.g., *hint*, *wind*) is used to represent long-vowel words (e.g., *pint*, *kind*) as well. Students might also wonder if this is the case with all long vowels.

Application and reinforcement activities make students look beyond the words they have been studying and determine how reliable the spelling feature appears to be when they face other vocabulary they know. Word hunts, where students look for words with the patterns or features under study in novels and other texts they have read, put these principles to the test and force students to make judgments about exceptions. For example, *give* looks like *time* in that they both have the same vowel–consonant–silent *e* pattern, but the vowel sound is different; so why is it an exception—or is it (e.g., *have*, *live*, *love*, *move*)? Word study activities are thought provoking and hands on, making them a natural fit for intermediate students. In addition, many board and card games can be adapted to highlight word study features, which allow students to be actively engaged at the same time that spelling principles are reinforced.

The following are several word study units that would be helpful for students functioning in the Within Word Pattern, Syllable Juncture, and Derivational Constancy stages of spelling. Each unit includes a word sort to help students discover the spelling principles at work, an application activity, and a reinforcement game. Time commitments range from 10 (e.g., Root of the Day, pair sorting) to 30 minutes (e.g., unit introduction, think sheets) per day, and units can be expanded across one to two weeks. Most of the activities involve partners or small cooperative groups in discovery learning. They can include the teacher as well. Teachers who adopt an explorative attitude provide a research model for students and need not fear relinquishing their “expert” stance.

Homophones are words with the same pronunciation but different spellings and meanings, and they can be a stumbling block for middle-grades readers and writers. For many, determining when to use *there* versus *their* remains a lifelong problem. Activities that focus on spelling–meaning connections for these words provide students with enjoyment and challenge. To

FIGURE 2

Homophone Rummy (late Within Word Pattern stage and beyond, third grade and up)

Materials: Write homophones on two diagonal corners of each blank playing card (3" × 5" index cards cut in half to make 2½" × 3" cards work well), including pairs or triplets to create decks of about 50 cards. Match difficulty of the homophones selected to the vocabulary and reading level of students who will be playing the game.

Directions: The object of the game is to discard all of the cards in your hand and to accumulate matched pairs (or triplets) of homophones. Review words in the deck (pronunciation and meaning) to assure they are sight words for the players. Each player is dealt five to seven cards, depending on the number of people playing and the length of time available. The remaining cards are placed in a draw pile on the table, with the top card turned over and placed next to the stack as the beginning of the discard pile. Any card placed on the table must be identified by using it correctly in a sentence or by providing a synonym or definition.

Play begins when the player to the left of the dealer draws a card from either the draw or discard pile. If the card is selected from the discard pile, the player must have a match for it, identify both of the cards, and place them on the table. Any matching pairs dealt to the player can be played at this time. To signify the end of his or her turn, the player then discards a card from his or her hand (identifying its meaning as it is placed in the discard pile), and the next player initiates his or her turn.

Players may challenge the meaning of any word after it is placed on the table; the dictionary is consulted to resolve the correct spelling–meaning connection. If the challenger is correct, the player must return the card to his or her hand and cannot discard on that play.

If there is a card in the middle of the discard pile that the player would like to use, it must be matched and played during that turn, and the player must pick up all of the discards lying on top of the selected card. Once a pair of cards is placed on the table, other players may play off the pair (e.g., put down *to* if *two* and *too* have already been played) when it is their turn.

Play ends with the first player who can play all of her or his cards. The winner can be considered the first person to go out or the person with the most matches on the table once cards still held are subtracted from those on the table.

begin, students can record homophones they find problematic on chart paper and continue adding to the collection as they encounter new sets. Once there are a sufficient number of words for organized study, the teacher can type them into a grid of three columns and six rows that fits on a single sheet of paper. (The table function in Microsoft Word with margins set at 0.0 inches works well for this.) If possible, organize the words by vowel sounds (e.g., *mane, pail, made; hare, heir, there; isle, eye, fined*) to allow the word study to do double duty: Emphasize spelling–meaning connections and demonstrate the various spelling patterns connected with vowel sounds. Make enough copies of the word sheet for each student to have a set of words to cut apart and sort. Students may be given an extra set to practice sorting for accuracy and speed at home. Words may be sorted by homophones or by spelling patterns. In either case, students should provide the meaning of each word—either through a synonym, a definition, or a sentence that clearly defines the word—as it is sorted. This will begin internalization of the spelling–meaning match.

A supplemental group activity that again applies spelling and meaning connections is the creation of a class homophone dictionary. Pages in a blank book can be marked with individual alphabet letters using stickers or stencils, and students can be assigned to add homophones to the appropriate pages. Where the homophones begin with different letters (e.g., *air, heir; aye, I, eye*) select the most common word to place the homophones in the dictionary and include a reference to their location on the other page(s). For example, the homophones for *I* would be placed on the *I* page and notes on the *A* and *E* pages. Pictures (e.g., *stair, stare; whale, wail*), definitions, synonyms, and defining sentences help make spelling–meaning connections. The homophone dictionary can become a valuable classroom resource.

Intermediate-grades students enjoy playing card games, even when the game has been adapted as a learning activity. Homophone Rummy is no exception and serves as an exciting reinforcement game (see directions in Figure 2). The cards included in the game should represent words that students have studied or recognize easily. The game

FIGURE 3
Homograph Think Sheet

<i>Homographs:</i>	subject	invalid	increase	extract	desert
	record	initiate	protest	conflict	estimate
	conduct	resort	console	combat	rebel
	separate	content	refuse	export	incline

1. Place an accent mark over the vowel in the syllable you stress in each word, according to how you first say it.
2. Sort words into columns by part of speech (noun, verb, adjective).
3. What do you notice about the relationship between stress and part of speech?
4. Sum up the principles that appear to be at work here.

Noun	Verb	Adjective

is played using the rules of the familiar card game Rummy, but each word in this version must be identified by meaning as it is placed on the table. Thus, spelling–meaning connections are made paramount; students internalize the spellings of troublesome words and may learn new vocabulary (e.g., *urn*, *gnu*, *yew*) in the process. An additional benefit is students’ use of the dictionary for authentic purposes when they challenge the meanings provided by other players.

Homograph Riddles

Syllable Juncture is often the most difficult word-knowledge stage to study, particularly when attention shifts to syllable structure and stress (Lewkowitz, 2003). The letter-name stage concentrates on straightforward, sound-to-letter relationships (e.g., /b/ /ă/ /t/ → bat), and Within Word Pattern provides learners with a variety of visual patterns

(e.g., vowel–consonant–silent *e*, *ai*, *oa*, *igh*) to represent long-vowel sounds. Stress patterns (e.g., *tén-der* vs. *atténd*; *phótogràph* vs. *photógrapher*) rely on the ear and are notoriously difficult to pin down; the instant attention is focused on which syllable receives more emphasis—stress appears to shift and leaves everyone uncertain or confused. Homographs are words with the same spellings but different pronunciations and related but different meanings. They allow students to play with the concept of stress and focus on grammar and vocabulary at the same time. Students in fourth grade and beyond find these activities challenging and fun.

To demonstrate the concept of homographs, teachers may want to read sections of *The Dove Dove: Funny Homograph Riddles* (Terban, 1988) to their students. In addition, they might share several single-syllable examples, such as *wind* (/wīnd/, /wīnd/), *wound* (/woond/, /wownd/), or *live* (līve, līve), discussing the differences in pronunciation and meaning. Follow this with practice hearing and identifying the difference between first- and second-syllable

FIGURE 4
Homograph Concentration (Syllable Juncture stage and beyond, fourth grade and up)

Materials: Pairs of sentences containing homographs used in the same grammatical context (e.g., The *subject* of my talk is economic policy. The British ambassador is a loyal *subject* of the queen.) that have been placed on card stock. There should be a pair for each use of the word—noun, verb, and adjective—for a total of 12 to 20 cards.

Directions: Cards are placed face down on a flat surface in a square or rectangular configuration. The first player turns over two cards and reads the sentences. If the homograph is used in the same way in each sentence, the player claims the cards and plays again. If there is no match, the cards are replaced, and the next player takes a turn. Once all the cards have been claimed, the game is over and the player with the most matches is the winner.

What is the *address* of the public library?

My tax return was delivered to the wrong *address*.

Senator Smith, how would you *address* the issue of gun control?

I will *address* both academic and behavioral concerns relating to your child at the meeting.

We trekked with camels across the Sahara *Desert*.

It would be very unwise of you to *desert* the French Foreign Legion.

Desert wildlife must be able to withstand harsh weather conditions.

Cacti and lizards appear to thrive on the limited moisture present in the *desert*.

Please don't *desert* me after we've meant so much to each other!

Her skin felt like leather after three days in the *desert* winds.

Your Honor, I *object*!

A flying *object* in the gale-force winds struck the car.

Chocolate was the queen's one and only *object* of desire.

How can she *object* to your impeccable taste?

In our *present* economy, those who invest heavily in stocks may be taking big risks.

She looked through every closet in an attempt to find the hidden birthday *present*.

The school band will *present* a concert next Tuesday evening.

Using *present* tense verbs adds vitality and immediacy to your writing.

This *present*, a helmet, will go well with your other riding gear.

May I *present* our honored guest, Senator Smith?

stress in a variety of distinct examples (e.g., *tá·ble*, *hóme·work* vs. *ex·pláin*, *de·cíde*). Encourage students to work with a partner and use words in sentences rather than in isolation to determine stress. Once they appear to grasp the concept, ask pairs of students to sort homographs typed into a master grid and cut apart like the homophones, according to the syllable they stress (first, second, or third) when they first say the word. (For word lists, see Bear et al., 2000; Fry et al., 1985; Ganske, 2000.) Include a "Miscellaneous" column to allow for words where students are uncertain or cannot come to an agreement. Such discussions will raise students' awareness to stress and variations in word meanings as they relate to stress. To connect meaning and stress, follow up this activity by having students write sentences that clearly indicate the words' meanings.

For further practice and to apply the concept of stress to grammar, have students complete the

Homograph Think Sheet (Figure 3). Their first task is to again place stress marks over the syllable they tend to emphasize; this is a metalinguistic awareness that improves with practice. Grammar comes into play as students, either individually or in pairs, place the words into columns by parts of speech. Students will find that the words fit into two if not all three columns, and they should be encouraged to try words in sentences to be sure they have exhausted the syntactic possibilities (e.g., The *ad·dress* is 531 State Street. He asked for time to *ad·dress* the committee. The *ad·dress* labels clogged the printer.). Once the sorting has been completed, discussion should lead students to see a relationship between stress and grammatical function; nouns and adjectives tend to be stressed on the first syllable, while homographic verbs receive second-syllable stress. As students internalize this concept, their functional grasp of grammar should improve.

FIGURE 5
-ar, -er, and -or Think Sheet

doctor	labor	pastor	circular	danger	paper	teacher
dancer	uglier	soldier	sailor	happier	smarter	stellar
faster	solar	preacher	robber	favor	commander	anger
honor	humor	actor	dreamer	lower	professor	regular

- Sort the words by part of speech (noun, adjective) and type (agent, concrete, abstract, comparative, scientific). Unknown or unsure words go in the Miscellaneous column.
- Examine any patterns in word endings. What principles can you draw from the evidence?

Nouns		Adjectives	
Agent	Concrete	Comparative	Scientific
	Abstract		Miscellaneous

In addition, they have developed a new decoding strategy, which will lead to easier pronunciation and comprehension of homographs in reading.

A final homograph reinforcement activity that students enjoy is Homograph Concentration. Pairs of homograph sentences are set out in a three-by-four or four-by-five card grid (see Figure 4), with each homograph used in all possible grammar roles. Matches only occur if the word underlined is pronounced the same way and has the same grammatical function. Sentences students have written earlier can be placed on index cards, or teachers can develop their own examples. The game directs students' attention to both stress and

grammar as they read the sentences aloud to determine a match.

A secondary benefit to homograph study is that students become aware of the relationship between stress and final consonant doubling with verb inflections. *Rebel*, as a verb, receives stress on the second syllable. As a result, the *l* is doubled when written in progressive and past tense (e.g., *rebell*ing, *rebell*ed). This concept may be presented using words relatively similar in structure (e.g., *differ*, *prefer*) where the stressed syllable differs. Ask students to spell the progressive form (-ing) of each word and then to figure out why one word doubles the final consonant while the other does not.

CHILDREN'S BOOKS FOR WORD PLAY

- Barrett, J. (1998). *Things that are the most in the world*. Ill. J. Nickle. New York: Simon & Schuster.
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(continued)

Encourage them to find other words that support or disprove their hypotheses. Students readily become word detectives, and language becomes exciting.

Derivational Constancy, the final word-knowledge stage, draws learners' attention to Greek and Latin roots and to the morphemes—meaning units—in use in English. Prefixes, suffixes, and inflected endings (e.g., *-s* and *-es* plural; *-ed* and *-ing* verb tenses) change the meaning of the base or root word and can present subtle and not-so-subtle spelling issues. For example, Syllable Juncture spellers consistently struggle with when and why they need to double final consonants or drop the final *e* when adding *-ed* or *-ing* (e.g., *rob-bing*; *robed*). The challenge increases when more sophisticated spellers (ranging from about fifth grade through adulthood) deal with assimilated prefixes. In these, the prefix retains its meaning (e.g., *in* meaning not, *ad* meaning to) but changes spelling to fit the root word (e.g., *irregular*, *illegal*, *impossible*; *accept*, *apprehend*, *aggravate*). Spellers might wonder if there is one *r/l*, *c/p/g* or two and why an *m* rather than *n*. Answers to these questions lead down the path of the history of the English language and our “lazy tongues,” which is a fascinating exploration for students who have become interested in language.

Spelling demons for most mature spellers are the unstressed final syllables of multisyllable words (e.g., *principle*, *principal*, *pencil*, *nickel*; *favor*, *lever*, *grammar*) in which sound gives no clue to correct spelling. However, as the following *-ar*, *-er*, *-or* exercises demonstrate, meaning and grammatical function can be useful clues to spelling. The word sort for this unit requires a series of word cards for words ending with *-ar*, *-er*, or *-or* (for suggestions, see Bear et al., 2000; Ganski, 2000) and involves multiple steps.

Once students have their words, ask them to sort first by word endings, reminding them that their goal is to find explanations for the spelling patterns. The second step is to look at the words according to grammatical function. Sharing *Merry-Go-Round: A Book About Nouns* and *Many Luscious Lollipops: A Book About Adjectives* (Heller, 1989),

two fabulous picture books on parts of speech (see Sidebar for these and other word play titles), will give students a better grasp of noun and adjective subgroups, which will help them as they sort the words again by grammatical types. Adjective categories will provide the clearest and most distinct word sets; starting here might clear up some confusion and provide the necessary success to encourage students to continue. They will find that two distinct adjective subtypes appear, comparative and scientific/mathematical, although they might not have a term for the latter group. Regular comparative adjectives end in *-er* (e.g., *tamer*, *sadder*), while the scientific adjectives end in *-ar* (e.g., *polar*, *circular*, *molecular*). Examination of comparative adjectives provides an opportunity to review Syllable Juncture concepts of doubling, *e* drop, and *y* to *i* (e.g., *trimltrimmer*; *safelsafer*; *happyhappier*) when adding inflected endings.

Nouns with *-ar*, *-er*, and *-or* endings are less clear-cut, but patterns do emerge. Agent nouns—those representing people or others who do things (“one who”)—end in either *-er* or *-or* (e.g., *teacher*, *diner*; *professor*, *donor*). The secret to determining which ending is used depends on the language from which the base or root is derived. Some agent nouns ending in *-er* come from Greek roots (e.g., *telegrapher*, *astronomer*), but most agent words ending in *-er* have been a part of the language longer and come from Old or Middle English. The *-or* agent nouns are derived from Latin for the most part. Discovering this difference might encourage students to check word derivations in the dictionary—an intriguing way to hone dictionary skills and personal vocabularies. Another pattern that students might identify is that the words ending in *-er* are frequently base words (i.e., free-standing meaning units) or Greek roots and that *-or* is attached to Latin roots, units that usually require a prefix or suffix to be recognized as words. For example, *teach* and *dine* can stand alone, but *fess* and *don* cannot. An interesting follow-up study might be examining agent words that have other endings (e.g., *florist*, *dentist*, *psychologist*; *musician*, *magician*, *optician*) and discussing their origins. (Although we have used this particular sort for almost 10 years, we did not put together the role of Greek roots and agent nouns until we were in the process of developing this article.)

CHILDREN'S BOOKS FOR WORD PLAY (continued)

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Concrete nouns—things you can touch, taste, see—tend to end in *-er* (e.g., *water*, *slipper*), while abstract nouns—concepts and ideas—frequently end in *-or* (e.g., *humor*, *flavor*). Words like *sugar* and *cellar* are very concrete but do not fit the established spelling–meaning pattern; they can be considered exceptions or examined further to determine if a pattern emerges. Several words seem to sit on the fence between abstract and concrete, and a few of them (e.g., *hunger*, *answer*) appear to fall on the concrete side. A discussion of words like *flavor*, *honor*, *hunger*, and *anger* will exercise students' critical thinking skills and may expand vocabulary also.

The *-ar*, *-er*, *-or* Think Sheet (Figure 5) serves as an application of these principles. It works well with partners and provides students with the opportunity to revisit and discuss the concepts, along with additional practice spelling the words under meaningful grammatical categories. UNO, a card game, serves as the inspiration for the reinforcement

FIGURE 6

Unar, Uner, Unor (UNO) card game (Derivational Constancy, fifth grade and above)

Materials: A blank deck of 55 cards, with six Skip cards—two each of *-ar*, *-er*, *-or*; six Reverse cards—two for each word ending; three Wild cards; four Wild, Draw Two cards; and 13 cards labeled in two diagonal corners with words for each ending (*-ar*, *-er*, *-or*).

Directions: Each player is dealt seven cards. The remaining cards are placed on the table as a draw pile, with the top card turned over and placed next to the draw pile as the start of the discard pile. The player to the left of the dealer attempts to play a card with the matching ending or to use one of the special cards, placing it on top of the card in the discard pile. If the player cannot play a card from his or her hand, he or she must take a card(s) from the draw pile until a card can be played. The player must pronounce the word and identify its meaning and part of speech when it is added to the discard pile. Play then passes to the next person. Skip and Reverse cards can be played when they match the word ending of the top card on the discard pile. Skip cards result in the next player losing a turn. Reverse cards change the direction of play, allowing the person who played just before to play again. Wild and Wild, Draw Two cards may be played at any time. The Wild cards allow the player to change the word ending for the next player, while the Wild, Draw Two card builds up an opponent's hand. The winner is the first player who has played all of his or her cards.

activity (Figure 6). Players must focus on the word's spelling and part of speech, and the more automatic this knowledge is, the faster and more fun the game. Wild cards add strategy and challenge to the activity.

The information gained from the inquiry project taught us that preservice and practicing teachers believe word study is a complex, multileveled process requiring time and practice to grasp its various aspects. Teachers need a network of instructional and collegial support to implement word study in their already busy class schedule. Teachers have a significant advantage for developing a systematic word study program if they can work with a team of colleagues to assess their students' spelling and writing errors and determine the word-knowledge features they need to address. But this does not have to be an all or nothing venture; individual teachers can implement a periodic, unit-based word-knowledge program that they expand year to year.

Incidental word study that provides a method for including vocabulary and grammar with spelling instruction exercises multiple components of word knowledge and carries over to reading and writing development. Furthermore, teachers and students become excited about language, which promotes continued exploration and discovery. Intermediate teachers who begin using incidental word study ac-

tivities gain confidence as they try things out and see their students respond with both interest and understanding. Our hope is that this article will encourage upper elementary and middle-grades teachers to try word study activities for other spelling, vocabulary, and grammar features. As we have already pointed out, excellent word study resources and word-play books are available.

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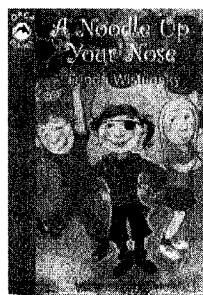
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