Catherine Rosenbaum

A word map for middle school: A tool for effective vocabulary instruction

The strategy outlined demonstrates how students who use background knowledge, context, morphology, and dictionaries learn words more effectively.

> Word meaning instruction that helps learners fit new words into an already existing conceptual network is substantially more effective than having students look up words in a dictionary or read words in interesting and relevant context. (Eeds & Cockrum, 1985, pp. 495–496)
>
> The most effective vocabulary instruction is the kind that also improves comprehension. (Dole, Sloan, & Trathen, 1995, p. 452)
>
> In the last 10 years, researchers have acclaimed vocabulary knowledge as the single most important factor in reading comprehension. (Laflamme, 1997, p. 372)

In a special issue of the *Journal of Reading*, April 1986, Ruddell wrote that we must view "vocabulary development as an interactive process," one in which "new concepts are nested in the meaning context in which they appear" (p. 587). The recommendation throughout that seminal issue was that effective vocabulary instruction should have active and positive student involvement; elaboration of word knowledge; personalized strategies; and continuous, independent, long-term growth (Carr & Wixson, 1986; Ruddell, 1986).

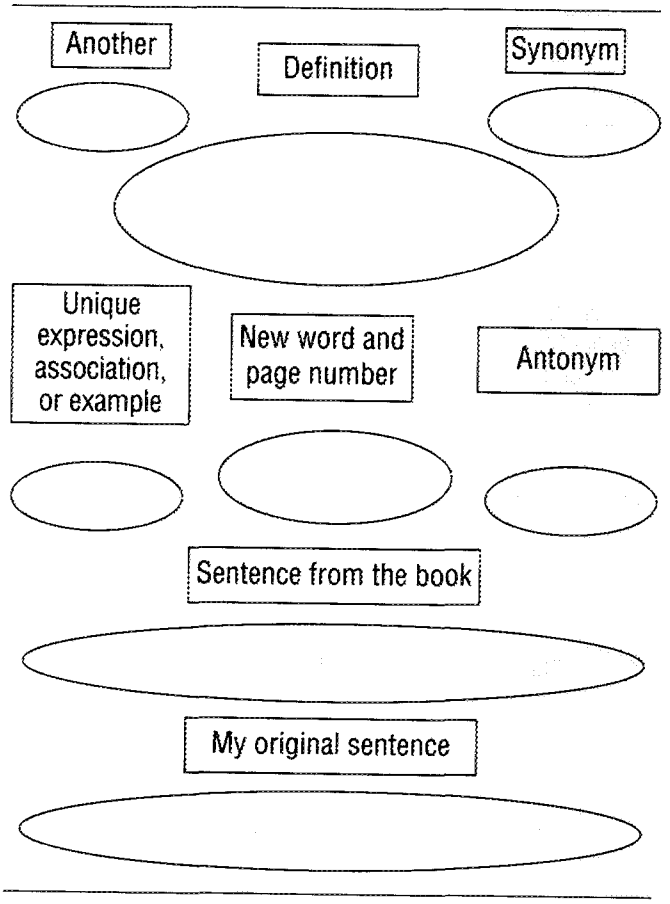
But what has happened to enhance vocabulary acquisition for middle school students in two and a half decades? In 1995, Dole and her colleagues identified "extensive practice with words, breadth of knowledge about words including both definitional and contextual

(pp. 44–49)

knowledge, and active student engagement leading to deep processing of words" (p. 543) as the features of effective vocabulary instruction. Where is the interactive framework, which middle school students need? I searched but finally decided to invent one for myself.

In 1998 Harmon listed eight techniques that teachers use to clarify word meanings for students: synonyms, brief descriptions, examples and nonexamples, rephrasing, repetition, associations, and unique expression. Harmon's list, the Frayer Model (Frayer, Frederick, & Klausmeier, 1969), and the Basic Concept of Definition Map by Schwartz (1988) provided models for me, but the inspiration ultimately came when I spotted, on the desk of a colleague, a vocabulary web consisting of eight identical bubbles. I adapted that web to provide students with a word map, intertwining most of the elements Harmon listed as essential to vocabulary instruction. My goal was for my students to use the map daily. They would be required to find interesting words during independent or assigned readings, as in Haggard's (1982) vocabulary self-collection strategy; activate prior knowledge and extend it; and use context, dictionaries, and structural analysis to construct and elaborate personal meaning. The map (see Figure 1) would provide a framework and, except for the repeated exposure to the same words through practice and testing, it satisfied all the criteria for effective vocabulary instruction.

FIGURE 1
Word map

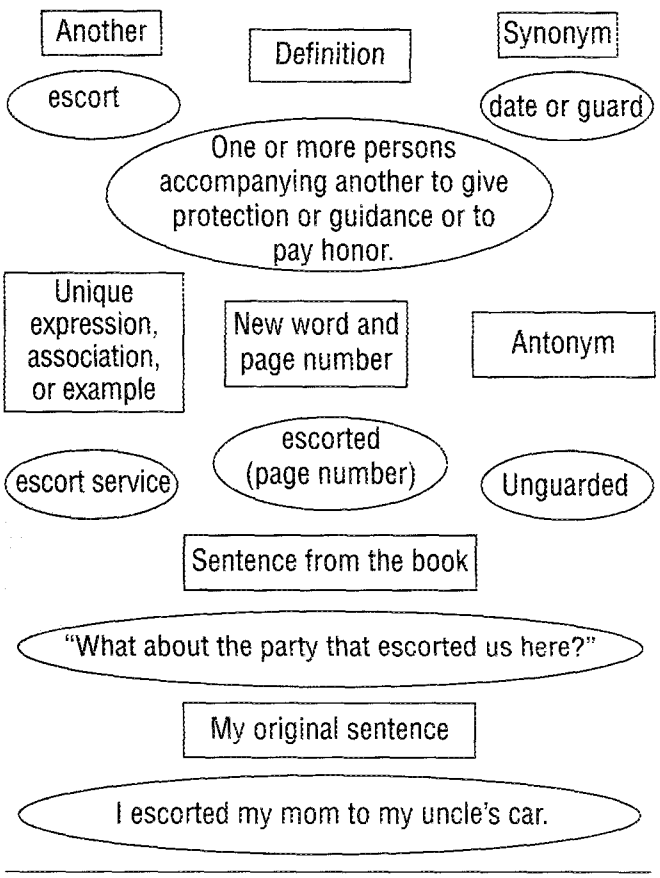


Making the map

First, the student writes the *new word and page number* in the center bubble and records the context in the elongated bubble immediately beneath it. The student must copy the essential parts of the *sentence from the book* in which the word was found onto the map to establish context. Many students are already absorbing ideas about the word's meaning by focusing on the clues that the original sentence supplies. Only after the context has been established are the dictionaries pressed into service; instead of copying all of the entries, the student copies only the *definition* that supports the context into the bubble immediately above the new word. While still using the information found in many dictionaries, the student records a *synonym* and an *antonym* in the small right-hand bubbles. Manipulation of prefixes is very helpful to students discovering antonyms, and it should be modeled easily and frequently to the whole class or to individuals. In some cases a nonexample, as in the Frayer Model, can substitute for an antonym because "many words do not have antonyms" (Powell, 1986, p. 618). In either instance, discussion with peers or a teacher helps refine the process and develop the concept of polarity, or oppositional thinking.

Structural analysis and morphology are the focus when the student records *another form* of the new word in the upper left-hand bubble. Not only does this manipulation help the student tap into background knowledge, but it also extends new learning. Therefore, when the reader encounters another word with similar roots or affixes, he or she will already have some knowledge of at least part of the word. When morphology is emphasized for every word learned, W.E. Nagy and P.A. Herman

FIGURE 2
Word map completed by student



(in Baumann & Kameenui, 1991) estimated that there is an average of from one to three additional words also understandable to the child.

Important for helping the student personalize new vocabulary is the lower left-hand bubble marked *unique expression, association, or example*. In this space, a phrase, a category, an example, a sketch, or a personal clue to the word is recorded. Here is another opportunity for active student involvement, conversation with peers or teacher, and integration or elaboration of prior knowledge. This may be the most personal, most flexible, and therefore the most memorable part of the map for many students.

The final step in the process is, of course, when the student creates an *original sentence*, using the new word independently and appropriately, in the elongated bubble at the bottom of the page. Previously, students who were assigned to look up words and write them into sentences found the exercise meaningless and useless. But the end of the word-mapping activity becomes a logical conclusion to a process that allows the student to integrate prior knowledge, new learning, and elaborated personal meaning.

Classroom application

I introduced the word map at the outset of the school year to sixth-, seventh-, and eighth-grade readers who had not had previous success with reading or standardized tests. I listed on the overhead projector a short list of words from the first chapter in the novel we were about to read, *Later, 'Gator* (Yep, 1995), and modeled how to map one word for the students. Then I read the chapter out loud while the students followed in paperbacks. When I had finished, I asked the students to identify the most difficult word on the list for me to model with the map again. Following my second demonstration, each student mapped one of the remaining words from the list, choosing a fairly familiar one. We repeated the activity the following days, using teacher-prepared vocabulary lists for each chapter, and soon the students were ready to apply the mapping technique to paired reading from a chapter. I continued to model almost daily. As the students became proficient, I added summarizing and predicting to the assignments following each chapter, but word mapping had become a daily routine whether the chapter was read aloud by the teacher or quietly by the students.

The next set of books—*With Every Drop of Blood* (Collier & Collier, 1994), *My Brother Sam Is Dead* (Collier & Collier, 1974), and *Number the Stars* (Lowry, 1989)—had a less strenuous vocabulary density, and I was planning to add the analysis of historical fiction to their instruction. Because mapping was now second nature to the students, I shifted the responsibility of finding the words to map to them as Haggard (1982) suggested. To my delight, the students chose interesting and unfamiliar words that often needed to be clarified, and they discussed their word mapping with peers or me (see Figure 2). Vocabulary development continued to be an integral part of the daily lesson, and when I wanted to model for the students I chose a tricky word from the daily poem, which had also been integrated thematically. Students

FIGURE 3
Notetaking chart for new vocabulary

New word and page number	Classmate	Definition	Synonym	Personal clue

Textbook _____
Chapter _____ Page numbers _____ Date _____

were taking an active role in their own vocabulary development, linking new words with prior knowledge, and applying the vocabulary in their own sentences. The learner involvement was high, and the use of words in written and conversational settings was becoming fluent. But the repeated exposure to the words was still a deficiency in the instruction.

Drama

Approximately once a month we also shared a short piece of drama. To eliminate student frustration with tongue-twisting vocabulary, the word-mapping activity was used to preteach the important or difficult words to the class. Each student mapped one word from a list selected by the teacher and presented on the overhead, taught the word to the class, and selected a role in the drama. The students took notes (see Figure 3) about the vocabulary while their peers taught, and the whole process made the reading of the play more fluent and, therefore, more enjoyable for everyone. Moreover, we discovered that many of the same words the students had chosen during their independent selection also appeared in the plays.

Student-suggested review

It was not until we were reading our third set of novels that the students suggested review games for their vocabulary words. They chose the words from their maps and submitted the favorites to me. I was overwhelmed at the quality of the words they had chosen and at the repetition from student to student. I created a variation of the U.S. television show *Jeopardy*, which we played in teams so that each team would have a representative who had read a different book. Repetition and fun were combined. We now had not only teacher enthusiasm, but we had student enthusiasm as well. Still, the greatest impact the daily mapping activity had was to help students acquire control over their own learning. Because they were choosing their own words to map, my students were developing sensitivity to new words, independence in their acquisition, and a commitment to long-term growth in vocabulary.

Final thoughts

In 1986 Stahl recommended giving "both context and definitions," which can be provided not only through definitions but also through synonyms, antonyms, prefixes, suffixes, roots, classification, etc." (p. 663). My map did that. Stahl also said to "encourage 'deep' processing," which includes both *comprehension*, "when the student applies a learned association to demonstrate understanding of the word...such as finding an antonym, fitting the word into a sentence blank, classifying the word with other words," and *generation*, "making up a novel sentence that demonstrates the word's meaning clearly" (p. 664). My map did that too. Similarly, Baumann and Kameenui (1991) "discussed three levels of word knowledge that can be used to consider depth of understanding and related instructional procedures: *association*, *comprehension* and *generation*" (p. 201). They went on to say this:

> A student with associative knowledge is able to link a new word with a specific definition or a single context. To possess comprehension knowledge, a child must either demonstrate a broad understanding of a word in a sentence or be able to use definitional information to find an antonym, classify words into categories and so forth. Finally, generative knowledge is characterized by the ability to produce a novel response to a word, such as an original sentence, or a restatement of the definition in the child's own words. (p. 201)

I found that my students acquired all three of these levels of word knowledge with word mapping. Yet Graves (2000) wrote, "I know of no detailed archival description of a well-planned, serious, powerful, and long-term attempt to teach students word-learning strategies" (p. 123). Perhaps the time has come for widespread use of the word map.

Rosenbaum teaches at the community college level in Richmond, Virginia. She may be contacted at 4113 Kensington Avenue, Richmond, VA 23221, USA.

REFERENCES

Baumann, J.F., & Kameenui, E.J. (1991). Research on vocabulary instruction: Ode to Voltaire. In J. Flood, J.M. Jensen, D. Lapp, & J.R. Squire (Eds.), *Handbook of research on teaching the English language arts* (pp. 604–632). New York: Macmillan.

Carr, E., & Wixson, K.K. (1986). Guidelines for evaluating vocabulary instruction. *Journal of Reading, 29*, 588–595.

Collier, J.L., & Collier, C. (1974). *My brother Sam is dead.* New York: Scholastic.

Collier, J.L., & Collier, C. (1994). *With every drop of blood.* New York: Bantam Doubleday.

Dole, J.A., Sloan, C., & Trathen, W. (1995). Teaching vocabulary within the context of literature. *Journal of Reading, 38*, 452–460.

Eeds, M., & Cockrum, W.A. (1985). Teaching word meanings by expanding schemata vs. dictionary work vs. reading in context. *Journal of Reading, 28*, 492–497.

Frayer, D.A., Frederick W.C., & Klausmeier, H.G. (1969). *A schema for testing the level of concept mastery* (Tech. Rep. No. 16). Madison, WI: University of Wisconsin.

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

Haggard, M.R. (1982). The vocabulary self-collection strategy: An active approach to word learning. *Journal of Reading, 26*, 203–207.

Harmon, J.M. (1998). Vocabulary teaching and learning in a seventh-grade literature-based classroom. *Journal of Adolescent & Adult Literacy, 41*, 518–529.

LaFlamme, J.G. (1997). The effect of the Multiple Exposure Vocabulary Method and the Target Reading/Writing Strategy of test scores. *Journal of Adolescent & Adult Literacy, 40*, 372–381.

Lowry, L. (1989). *Number the stars.* Boston: Houghton Mifflin.
Powell, W.R. (1986). Teaching vocabulary through opposition. *Journal of Reading, 29,* 617–621.
Ruddell, R.B. (1986). Vocabulary learning: A process model and criteria for evaluating instructional strategies. *Journal of Reading, 29,* 581–587.
Schwartz, R.M. (1988). Learning to learn vocabulary in content area textbooks. *Journal of Reading, 32,* 108–118.
Stahl, S. (1986). Three principles of effective vocabulary instruction. *Journal of Reading, 29,* 662–668.
Yep., L. (1995). *Later, 'Gator.* New York: Hyperion.