Theses Digitization Project   John M. Pfau Library

1991

Vocabulary acquisition in the middle grades: a conceptual approach

Patricia L. Paige

Follow this and additional works at: https://scholarworks.lib.csusb.edu/etd-project

Part of the Education Commons, and the Reading and Language Commons

Recommended Citation

California State University

San Bernardino

VOCABULARY ACQUISITION IN THE MIDDLE GRADES:

A CONCEPTUAL APPROACH

A Project Submitted to

The Faculty of the School of Education

In Partial Fulfillment of the Requirements of the

Degree of

Master of Arts

In

Education: Reading Option

By

Patricia L. Paige, M.A.

San Bernardino, California

1991

APPROVED BY:

_____

Advisor: Dr. Adria Klein

_____

Second Reader: Dr. Kathy O'Brien

ii

SUMMARY

This project provides teachers with a variety of teaching methods and strategies for vocabulary instruction in the middle grades. The learning activities involve students with listening, speaking, reading, and writing. Some methods are based on quality classroom discussions managed by the teacher, while others foster student cooperation on group tasks. The power of learning through the arts is employed in activities using drama, music, and art. There are many strategies which students can learn to use as they become independent learners. A strong emphasis is placed on fostering student interest in vocabulary acquisition through activities designed to heighten student interest and participation.

Students in the middle grades must learn many thousands of new words per year beyond the demands they faced in the primary grades. For the first time in their academic careers they are expected to read content area texts and rapidly learn many complex concepts. Middle grade students have to read more sophisticated literature selections about people, places, and events which are unfamiliar to them.

iii

A review of the literature supports instruction based on schema theory, the interactive nature of the reading process, whole language teaching, and the use of metacognitive strategies. Teachers need to learn to assess their students' background knowledge prior to instruction so they can best identify which words in a selection need to be directly taught. Secondly, teachers need to choose appropriate vocabulary teaching methods based on their students' background knowledge and the material to be learned. Finally, teachers need to encourage students to become strategic readers and learners.

Table of Contents

INTRODUCTION

A crucial component of the elementary reading
program is vocabulary acquisition. In the middle
grades it becomes even more critical, because
students are expected to read more complex text than
they met in the primary grades. Beginning in fourth
grade students encounter more difficult content area
material and more sophisticated literature. They
must expand their vocabularies not only by thousands
of words per year, but to a thorough understanding of
the concepts represented by the new words. This
project will explain how vocabulary is acquired
through a conceptual approach. The purpose of this
project is to provide middle grade teachers with
strategies and methods based on schema theory to
instruct their students in vocabulary development
across the curriculum.

The benefits of a strong vocabulary development
program for students are three-fold. First, a larger
vocabulary will enable students to better comprehend
the reading texts they must master. The ability to
understand difficult texts in turn provides the
students with greater access to the basic knowledge
of their culture and a greater ability to succeed
academically. Second, a deep knowledge of vocabulary

meanings will help students to appreciate figurative language and idiomatic expressions, giving them a better opportunity to enjoy their literary heritage. Finally, students with wider vocabularies are better able to express themselves both orally and in written work.

The challenge for middle grade teachers is to employ the best strategies and methods to help their students master the vocabulary required for success in their curriculum. Guidelines for a vocabulary program based on schema theory have been proposed as follows by Carr and Wixon (1986, p. 589-592):

1. Instruction should help students relate new vocabulary to their background knowledge.

2. Instruction should help students develop elaborated word knowledge.

3. Instruction should provide for active student involvement in learning new vocabulary.

4. Instruction should develop students' strategies for acquiring new vocabulary independently.

Existing vocabulary instruction does not meet these criteria (Blachowicz, 1987; Graves, 1989).

Blachowicz observed fourth grade basal reading lessons, including pre-reading vocabulary activities. Vocabulary instruction accounted for 19% of the time spent in the basal lesson, but the instructional focus was on definitions and words in contexts unrelated to the reading selection itself. Blachowicz found a "lack of attention to the development of independence in gaining word meaning, or towards generalized strategies for figuring out words" (p. 135). The teachers were interviewed following classroom observations, and although they were not satisfied with the basal vocabulary program, the teachers said they were unaware of ways to improve vocabulary instruction in their classrooms.

Most basal reader programs do at least include some vocabulary development activities for the teacher to use with reading selections. Most content area texts, however, only provide a word list for the chapter or lesson and an end-of-book glossary for the students. As Nagy (1988) says, "most of the content words in the definition are less likely to be familiar to the student than the word" under study itself (p. 4). In addition, Nagy points out that "definitions do not teach you _how_ to use a new word" (p. 4). Middle grade teachers are quite familiar

with students who memorize glossary definitions to pass matching tests, but who are unable to apply their new vocabulary to writing or speaking tasks, and are unable to understand the terms in a new context.

The main approach to vocabulary development represented by existing basal readers and content area textbooks is the definitional approach as explained by Herman and Dole (1988). The authors defend its use only "when students already know the underlying concept or closely related words or concepts" (p. 46). Stahl (1986) further recommends that teachers include the use of synonyms, antonyms, structural analysis, and classification to help students reach a deeper level understanding of the definition. These methods are in agreement with schema theory which says learners combine new information with background knowledge to expand an existing schema.

Anderson and Freebody (1979) identified three schools of thought related to vocabulary instruction, the aptitude, instrumentalist, and knowledge positions. Those who accept the aptitude hypothesis believe the ability to learn language is determined at birth and schools must try to help each student

reach his/her inborn potential through a great deal
of drill and practice. The instrumentalist position
is represented by the definitional approach explained
above. In contrast, the knowledge hypothesis
"emphasizes conceptual frameworks or 'schemata;'
individual word meanings are merely the exposed tip
of the conceptual iceberg" (p. 5). Vocabulary
knowledge is highly correlated with both reading
comprehension and general world knowledge by many
researchers (Anderson and Freebody, 1979). The
knowledge hypothesis is closely related to schema
theory, supports whole language instruction, and it
is the approach advocated by this project.

A schema, according to Rumelhart (1981), is "a
data structure for representing the generic concepts
stored in memory. There are schemata representing
our knowledge about all concepts; those underlying
objects, situations, events, sequences of events,
actions and sequences of actions" (p. 5). Each
schema includes the total network of related ideas
concerning a concept. The implications for
vocabulary instruction are enormous. Each new word
or concept learned takes its place in an existing
schema, or helps create a new one. The extent to
which the new word or concept is learned will affect

its relationship to the entire set of interrelated ideas within a schema. Teachers must help their students access their existing schema when encountering new vocabulary so the new learning will connect with prior knowledge.

In a model of the interactive reading process Ruddell (1986) demonstrated how the reader accesses prior knowledge during reading, and how dependent comprehension is on his/her ability to relate the text to prior knowledge. This view of reading may help explain the close relationship between vocabulary knowledge and reading comprehension observed on test scores. Ruddell claims that intent to learn new vocabulary is of primary importance to a student's success. He declares, "Establishing motivation and desire to acquire new vocabulary is at the very heart of vocabulary acquisition" (p. 587). In addition to their primary concern with cognitive learning, teachers must also take responsibility for instilling their students with a desire to learn.

The need for this project is demonstrated by Blachowic'z (1987) discovery of the lack of adequate vocabulary instruction in middle grade reading programs and the lack of schema-based instructional methods in the current textbooks. Schema theory, as

described by Rumelhart (1981), explains how new
vocabulary becomes associated with prior knowledge in
the student's mind, thereby supporting schema-based
vocabulary instruction. The benefits of
concept-based vocabulary instruction in the
interactive reading process are demonstrated by
Ruddell (1986). The standards for an effective
vocabulary program as established by Carr and Wixon
(1986) have been met by this project. The strategies
and methods promoted by this project follow the
knowledge hypothesis (Anderson and Freebody, 1979) in
which vocabulary instruction is based on schema
theory. This project also addresses both cognitive
and affective (Ruddell, 1986) aspects of teaching and
learning.

    Although this project is designed for use by
middle grade teachers, its methods and strategies can
be adapted to upper grades or secondary school
instruction as well.

REVIEW OF THE LITERATURE

Introduction

Vocabulary acquisition is essential to both reading instruction and content area instruction. A student's vocabulary has consistently been found to predict both reading level and intelligence scores on standardized tests (Anderson and Freebody, 1979). This high correlation demonstrates the advantages students with high vocabularies are likely to enjoy in their academic careers.

This review of the literature will begin with a description of the historical development of vocabulary instruction in America from its beginnings in Colonial America to the present time. Current learning theories underlying vocabulary instruction will be considered, including psycholinguistics, the schema theory of learning and the interactive nature of the reading process. Three major instructional issues, the identification of appropriate vocabulary for instruction, depth of word knowledge, and the effectiveness of a variety of teaching methods, will be discussed.

Historical Development of Vocabulary Instruction

The earliest reading texts for children in
America were based on the Bible, since the focus of
education was to teach religious principles. There
was no concern for the difficulty of the vocabulary
used in the texts. By the early nineteenth century,
however, text content and vocabulary were influenced
by the naturalistic educational philosophy begun in
Europe by Rousseau and Pestalozzi (Venezky, 1987). A
child nurture movement spread in the United States in
which childhood experiences became the subjects of
stories for children. The McGuffy Readers which were
used widely throughout the United States presented
their young readers with tales of childhood
activities. The vocabulary better reflected the
young readers' familiar everyday language.

Vocabulary was further controlled through the
adoption of Webster's blue-back speller which limited
the number of syllables contained in introduced
words. Reading primers such as the McGuffy Readers
contained many fewer new words by the end of the
1820's (Venezky, 1987). Students were first taught
to read phonetically regular words, which provided a
severely limited vocabulary for story content. This
controlled vocabulary approach remained strongly in

command of the basal reading programs well into the twentieth century.

John Dewey's Progressive Movement, which was an innovation in the second half of the nineteenth century, emphasized relating classroom instruction and content to the real world experiences of the students. He declared, "The delight that children take in demanding and learning the names of everything about them indicates that meanings are becoming concrete individuals to them" (Dewey, 1933, p. 232). He advocated teaching vocabulary through meaningful experiences, not stilted definitions. He perhaps anticipated schema theory when he wrote, "...the fundamental difficulty is not with the word, but with the idea" (p. 245). Dewey advised teachers to provide students with many opportunities to express themselves orally and in writing to develop their vocabularies more naturally.

By the early twentieth century the scientific movement came into vogue and gave further strength to controlled vocabulary in student texts. Behaviorists supported stimulus-response instruction in which students were taught by the "whole word method" in which they learned to read one word at a time with no context. Venezky (1987) reported, "So long as

behaviorism remained the dominant educational
psychology, little was done to promote comprehensive
strategies aside from emphasizing the repetition of
vocabulary and pressing for more immediate
association responses from the child" (p. 257).

Word frequency counts began with Thorndike's
work in the early 1920's (Venezky, 1987). This
attempt to determine which words students needed most
to know actually resulted in teaching them fewer
words. The sight word list approach became an
integral part of many reading programs. Students
drilled on a limited number of words with no context
for assistance. Students were not expected to study
new vocabulary words until they were proficient
readers. This movement was carried to such an absurd
extreme that children's literature was actually
rewritten to simplify the vocabulary when such
materials were used in basal readers. Stories
written specifically for inclusion in basal reading
programs were nearly devoid of all meaning as an
extremely limited number of words were used.

The definitional vocabulary teaching method fit
Behaviorist theory well. This approach was designed
to present students with correct meanings of new
words which students were to memorize in a

stimulus-response learning manner. It was believed
that knowledge of a word's definition would provide
the student with an adequate understanding of the
word. This method has persisted for decades in basal
reading programs and in content area instruction as
well. Research into the schema theory of learning
demonstrates that the use of the definitional method
should be restricted to situations in which the
students have sufficient background knowledge that a
definition would be adequate to assist comprehension.

The current movement toward literature-based
reading instruction rejects the controlled vocabulary
approach. Students learn to read using real
literature rather than basals with artificial
language patterns and restricted word counts and
vocabularies. Students learn to access their
background knowledge to comprehend as they read.
Using metacognitive strategies, each reader can learn
to realize which words s/he does not know in a text
and then apply strategies to determine a meaning of
the unknown word in the given context. Students are
taught words in semantically related groups when
direct instruction is necessary. Rather than
learning to recognize or write dictionary
definitions, students are encouraged to develop their

own definitions using synonyms, antonyms, and personal experiences related to the concept.

Children learn language by listening, speaking, reading and writing with natural language, not artificially controlled language. Whole Language teaching advocates meaning-based instruction in the language arts with integration of content areas. The use of quality literature and content texts or resource books and materials means children learn to read from natural language texts in which vocabulary is not controlled, but is as expressive as the best oral language the children encounter.

Theories Underlying Vocabulary Acquisition

Because of the close cause-effect relationship between vocabulary knowledge and reading comprehension, vocabulary acquisition has traditionally been studied through its effect on reading comprehension. Theorists can be distinguished as those who believe the reader must first know the meanings of the words in order to comprehend a passage, and those who believe the passage gives meaning to the words it contains. These two positions are otherwise known as "bottom-up" processing and "top-down" processing.

Schema theory supports "top-down" processing. Schema theory holds that each person has many schemata stored in memory and that these schemata constitute a person's prior knowledge. Rumelhart (1981) wrote, "our schemata are our knowledge. All of our generic knowledge is embedded in schemata" (p. 13). The appropriate schema is accessed when new information is encountered, and the new knowledge helps expand an existing schema with additional concepts.

Understanding of schema theory began with Piaget (Klein, 1988) who defined children's stages of learning. Piaget theorized that new learning does not simply accumulate in the mind, but that it associates with prior knowledge stored there or, "if the new information is dramatically new or different, one then adjusts the schema so that it is essentially altered both in general contour and in detail; i.e., one accommodates the new learning" (p. 6-7).

The Piagetian developmental stage achieved by middle grade students is the stage of Concrete Operations (Smith, Goodman, and Meredith, 1970). The authors reported, "The key to this stage is use of the concrete. The child develops the capacity to conserve one attribute or idea while he is

considering another. He can accomplish groupings and seriations in space, in time, and in number. He can keep at least two variables in mind as he considers categories or classes" (p. 125). In this developmental stage children are able to compare and contrast new vocabulary words with prior knowledge as they consider the relationships and associations of new terms with their existing schemata.

Because children have developed these abilities by the middle grades, teachers must also be alert for a metacognitive problem described by Balajthy (1988). He explained, "Readers tend to interpret what they read -- correctly or incorrectly -- according to their existing knowledge structures. They tend to disregard statements that challenge their beliefs" (p. 5). When teachers realize that their students may fall into this trap, vocabulary and concept instruction must be designed to help students restructure their existing schemata or to create an entirely new schema to accommodate the new information. Balajthy explained that this problem becomes especially significant in science instruction since students encounter so many new concepts and such extensive vocabularies in that content area.

Teachers in the content areas may also incorrectly assume students have a reading problem when the real difficulty lies with the students' lack of adequate background knowledge to understand the text. The need for establishing adequate background knowledge is so strong that Stansell and DeFord (1981) wrote, "comprehension is as much a function of what readers know before they read as it is of the information that a particular selection actually contains" (p. 16).

Rumelhart (1981) discussed the need for restructuring of schemata when new information does not agree with the learner's existing schema. He said, "It is interesting that schemata not only contribute towards development of an accurate perception but, by the same token they can sometimes cause a distortion" (p. 21). When the student interprets a text relying on an existing schema that does not fit the text, confusion will result. Teachers must be prepared to provide direct vocabulary instruction when their students do not possess the necessary schema to process what they read or when the teacher believes they may access the wrong background knowledge for the text. How to

identifyOappropriate vocabulary for instruction will
be discussed in another section of this paper.

Goodman (1968) has investigated the
psycholinguistic nature of the reading process,
concluding that reading "must be regarded as an
interaction between the reader and written language,
through which the reader attempts to reconstruct a
message from the writer" (p. 17). Before this
understanding was reached, most researchers thought
of reading as a direct process in which a writer
communicated his/her ideas to the reader. The
reader's thought processes were not thought to have
any bearing on the text; reading was equated with
decoding the written text into oral language. As
Goodman pointed out, however, that is not a
sufficient description of the reading process. He
wrote, "decoding must involve some level of
comprehension of the entire meaning of large language
units. Nothing less than decoding of large language
units is reading. Even in the lowest proficiency
level the child must be able to get meaning" (p. 18).

The interactive nature of reading requires that
the reader bring to the text his/her own background
knowledge of the topic, that s/he be able to decode
the written text, and that s/he interpret the

author's message in light of his/her background
knowledge. Klein (1988) explained, "This is what
effective reading is about - using contextual
assistance provided by (a) the text, its structure,
and content, and (b) background knowledge and prior
experience to impose meanings on unfamiliar words"
(p. 78).

Implications for instruction based on the
interactive nature of the reading process have been
described by Ruddell (1986). He explained that the
teacher must direct students' attention to the text,
help them assess and activate their prior knowledge,
and teach them strategies to develop new concepts as
they read independently. Ruddell created a model of
the reading process (See Appendix A) which
demonstrates the interactive nature of the process.
Ruddell concluded, "comprehension and vocabulary
development [is] an interactive process. Since many
new words are encountered in written text,
comprehension of the text must occur before
vocabulary learning takes place. In effect, the new
concepts are nested in the meaning context in which
they appear" (p.587).

Instructional Issues in Vocabulary Acquisition

Teachers' instructional decisions about vocabulary development center around three major concerns. One is how to best identify which vocabulary words should be taught directly. A second concern is determing the depth of word knowledge required before a student "owns" a new word. The third issue deals with the most effective methods and strategies for vocabulary teaching.

Identifying Words for Vocabulary Instruction

Researchers have attempted to count the total number of words which students must master. Nagy and Herman (1987) determined that the total vocabulary of an average high school student is about 40,000 words (p. 21). That total implies students learn more than 3,000 words per year during their school careers. The limited time available for vocabulary instruction obviously precludes direct instruction of so many words. Nagy and Herman concluded that most vocabulary learning takes place through repeated exposure to words in both oral and written contexts. They wrote, "Incidental learning of word meanings from written context may therefore account for a large proportion of the annual vocabulary growth of

those students who do read at all regularly" (p. 26).
They therefore recommended that teachers should
provide a regular silent reading time during the
school day to promote vocabulary learning from
written context.

Although students apparently do learn many new
words through extended reading, they may not have the
ability to get an accurate or deep level
understanding of a word simply through context alone.
Some direct instruction is required, especially for
many terms students encounter in content area
instruction. In a later study, Nagy (1988) concluded
that the "resolution lies in the teacher's ability to
make efficient use of vocabulary instruction - - to
identify which words and concepts are likely to pose
serious difficulties for the students, and to
identify what type of difficulties these are, and
what instructional remedies are most appropriate" (p.
16).

In order to identify which words in a given text
are most appropriate for direct instruction, teachers
should consider several factors. Kapinus (1987)
discussed several criteria for selecting the best
words for an instructional program. She described
three tiers of vocabulary knowledge: 1) high

frequency, very basic words; 2) extremely low frequency words; 3) frequently encountered words connoting a mature level of literacy. Words in the first tier need not be taught since they will be learned in everyday contexts. Words in the second tier need only be taught when needed for comprehension in a specific context. The third group, however, are those words which teachers must stress in their instruction. Kapinus recommended that teachers should select semantically related words to help students develop their schema networks more effectively.

Depth of Word Knowledge

The extent to which a student knows a word ranges from a vague familiarity with one meaning to the ability to recognize and use the word in a variety of oral and written contexts. Beck, Perfetti, and McKeown (1982) defined three levels of word knowledge: at the lowest level no complete meaning is stored in memory; at the intermediate level, meaning is accessed only with effort; at the highest level, at least some meanings are automatically accessed (p. 507). The authors explained, "words are just labels for concepts. If

one's understanding of a concept is rich enough, the access to contextually relevant components can occur easily in the right context. If one's understanding of a concept is more impoverished, access to some components may be rapid, but access to other components either will not be possible or will be the result of slower constructive retrieval processes" (p. 508). The implications for instruction are that teachers must help their students connect new words with a network of concepts to develop deep word knowledge.

Although deep word knowlege is desirable, it may not always be necessary for reading comprehension to occur. Kameenui, Dixon, and Carnine (1987) differentiated between prompted and unprompted recall. In prompted recall, "a reader could come across a vaguely familiar word, one that had been encountered elsewhere but not retained well, and utilize the context to prompt recall of that word at some level" (p. 135). By contrast, unprompted recall "is over-learning with respect to normal reading because the recall requirements upon the reader are greater than those imposed by normal reading, which always involves context to some extent" (p. 135). Teachers need to determine the depth of knowledge

required for their students to accomplish the learning task at hand; when students need only comprehend a story the level of knowledge required will be less than when they will be required to perform speaking or writing tasks with the target word/s.

Effectiveness of Vocabulary Instruction

Many methods of vocabulary instruction have been designed. Some rely on complex mnemonic associations, such as the keyword method. Others rely on simple associations with definitions or synonyms and antonyms. Many context strategies using both instructional and natural contexts are described in the literature. Schema-based methods and strategies are conceptual approaches which emphasize the need to relate new words to prior knowledge, and to learn words in related groups. These methods and strategies have been tested for effectiveness in a variety of classroom research studies.

Definitional approaches are traditionally encountered in basal readers and content texts. Students are provided with definitions for the words under study, or are directed to locate definitions in a dictionary or glossary. Often they are required to

fill in cloze sentences with the words or to write
original sentences with the new words. The nature of
dictionary definitions, however, restricts the amount
of information the reader can gain about a word's use
in context. This approach is best used when the
student already knows the concept for the new word
and simply needs to associate the new word with the
known concept. The new word will become part of
his/her vocabulary as it is met repeatedly in
context, and the working definition will be expanded
and deepened in each reading.

Gipe (1979) compared the effectiveness of the
dictionary definition approach to three other
techniques: a) association of the new word with a
known synonym; b) categorizing the new word in a list
with known words; c) an instructional context method
in which sentences were deliberately written to
provide an appositional definition. She found that
the context method was significantly more effective
for both test groups of third and fifth grade
students. Gipe concluded, "The results of this study
would seem to suggest support for the interactive
model. This would imply that the familiar context
guided each learner to the 'old information' present
in his or her conceptual base; that the target word

could then be assimilated into the system on the basis of individual background experiences; and that the learner was not only provided with a definition of the target word but with the context in which the words appear" (p. 640). Neither the categorizing approach nor the definitional approach were as effective as association with a synonym or learning a word in context.

Teaching students to effectively use context clues is a critical component of any vocabulary development program. Students need to recognize which context clues are present in a passage as well as determine which unknown words are hindering their comprehension. Sternberg (1987) explained the close relationship between reading comprehension and vocabulary knowledge in this way: "Whereas vocabulary is an indirect measure of ability to learn word meanings in context, reading comprehension is a fairly direct measure of ability to learn concepts in context" (p. 90). He described eight types of context clues which readers must recognize:

1. Temporal cues: duration or frequency of X

2. Spatial cues: location of X

3. Value cues: worth or desirability of X

4. Stative descriptive cues: properties of X

5. Functional descriptive cues: purpose of X

6. Causal/Enablement cues: causes of or
   enabling conditions of X

7. Class membership cues: classes to which X
   belongs

8. Equivalence cues: meaning of X, or contrasts
   to X

In order for the use of the clues to be
effective, Sternberg said the reader must be able to
use them both spontaneously and automatically. He
advised teachers to directly teach the meaning and
use of these clues through examples from whole texts
so the students will be able to apply these
strategies in their own reading beyond the classroom.
A student's use of context clues is especially
important to his/her ability to determine the meaning
in context of multiple meaning words. It is only
through many encounters with such words in a variety
of contexts that students develop deep understanding
of both denotative and connotative meanings.

The definitional and contextual methods have
been the traditional approaches to vocabulary
instruction. As Hodges (1984) wrote, however, there
is "an important difference between knowing words and
understanding their broad range of uses and
referents. For vocabulary development is first and
foremost a matter of concept development" (p. 3).

The conceptual approach is an approach in which new words are learned in relation to known concepts and concept groups. This approach is based on schema theory (Rumelhart, 1981).

Reading is currently viewed as an interactive process (Ruddell, 1986) in which the student activates his/her background knowledge of the topic of the text and uses metacognitive strategies to assess his/her on-going comprehension. If comprehension breaks down s/he will use a variety of strategies to determine why and what is the best way to recover meaning. This understanding of the relationship of new learning to background knowledge supports teaching vocabulary with a conceptual approach.

Marzano (1983) developed an extensive vocabulary list organized into 430 clusters of related concepts, containing 7,000 of the most frequently occurring words in elementary school textbooks. He intended his list as a reference guide for teachers to use when they were teaching various units of study. Marzano advocated that teachers should teach vocabulary in concept groups by brainstorming word lists about a given topic with the class and discussing the placement of each word in a given

cluster. The students would follow this discussion
with a variety of activities using the words from
their list and would study derivational forms of the
words as well. The approach elicits background
knowledge from the students as a whole group, and
many individuals would be introduced to new words
known by their peers. The discussion period calls
for students to use higher order thinking skills to
discover relationships among words related to a given
topic. Students would also be expected to have a
greater interest in learning new words generated by
their classmates than those listed in a textbook.
This affective component has also been addressed in
other studies.

The effectiveness of teaching words in
semantically related groups was demonstrated in a
study conducted by McKeown, Beck, Omanson and Pople
(1985). The authors examined student learning using
a semantic approach in which new words were grouped
into two related categories of twelve words each.
There were three treatment groups: 1) the first group
received rich instruction with concept development
through identifying relationships among and between
words; 2) the second group received the same
instruction as the first with the addition of a

motivational "word wizards" activity in which
students collected words which interested them; 3)
the third group received traditional instruction and
served as the control. Although there was little
difference in knowledge of definitions on a post-test
among the three treatment groups, students in the
second group "developed elaborated word meanings
...which apparently resulted in the development of
semantic networks around the learned words" (p. 533).
These students were observed to use the target words
"spontaneously in natural contexts outside of class"
(p. 533). This display of ownership of new words is
the prime goal of vocabulary instruction.

Eeds and Cockrum (1985) developed an even more
extensive interactive lesson plan in a study
conducted with fifth grade students. The first group
was the Teacher Interaction Group in which a great
deal of discussion helped students relate the target
words to their prior knowledge. The second group was
a Dictionary Group which was instructed to find
definitions and copy them. The final group was the
Control Group who read the target words in the
context of literature selections and then worked on
related activities. Students in the Teacher
Interaction Group had the best vocabulary retention

on both the immediate post-test and the delayed
retention test. The authors proposed that teachers
adopt a four-step instructional model in which
students would:

1. Identify and discuss their background
   knowledge of the target word

2. Write a personal experience related to the
   target word

3. Write a non-example of the target word

4. Write their own definition of the target
   word

Personalizing instruction to this extent is designed
to develop positive affective responses to vocabulary
acquisition.

The effectiveness of many instructional methods
and strategies such as those discussed above were
reviewed by Herman and Dole (1988). They concluded
that "the definitional and contextual approaches used
alone are not as effective as a combination of the 2
[sic] in improving comprehension. The conceptual
approach builds more thorough word knowledge" (p. 43)
than the other two singly or in combination.
However, the authors stressed the importance of the
teacher as a decision maker in the process.
"Appropriate instruction most often depends on the
to-be-learned words and the given text for which a

word is important. Sometimes students can simply be
given definitions of words and such knowledge is
sufficient for understanding words and for enhancing
comprehension of a given text. Other times students
will need a strategy for using context to figure out
word meanings in order to maintain comprehension. At
still other times, students will need more extensive
instruction to learn new words because definitions
alone and context alone are not sufficient for a
thorough enough understanding of words crucial to
comprehending a given text" (p. 51).

Graves (1987) outlined a three-part plan for
vocabulary instruction including Learning Words,
Learning to Learn Words, and Learning About Words
(See Appendix B), but he ultimately concluded, "the
instruction I envision is in the majority of cases
teacher-directed, active teaching that involves a
good deal of explicit teacher talk. ...I envision
teachers who themselves appreciate words and the
English language more generally, who are
knowledgeable about language, and who are precise in
their diction and articulate in their speech and
writing. Without such teachers, the plan outlined
here would be of no value; with such teachers, it can

become far more than anything that can be put down on paper" (p. 181).

Conclusion

The problems of vocabulary acquisition have been better defined in recent years due to the development of cognitive learning theories which underlie the current understanding of the interactive nature of the reading process. Teachers who have felt the definitional approach was unsuccessful were correct; now they can learn more successful methods and strategies to instruct their students. The definitional approach may be used when appropriate. Many context strategies can be taught so students will learn to determine a meaning for new words in a passage. Teachers must assume a greater role in directly teaching critical vocabulary through conceptual methods such as those presented in this project.

GOALS AND LIMITATIONS OF THE PROJECT

This project provides teachers with a handbook of instructional methods and strategies for teaching vocabulary development in the middle grades. The contents are designed for use with students in regular classes, either heterogeneous or homogeneous. The scope of the project includes both language arts and content areas, as both narrative and expository forms are addressed. A wide range of both oral and written activities are included. Methods and strategies cross the four language areas of listening, speaking, reading, and writing. Activities in music, drama, and art are included. Math vocabulary is considered in a separate section due to the special needs of that subject area..

This project is not a "vocabulary program" with worksheets and predetermined word lists to master. It is not intended to provide teachers with ready-made lessons. Teachers must carefully select the appropriate method or strategy to use with their given lesson. Teachers must have a thorough knowledge of their curriculum and be able to assess their students' vocabulary needs.

Teachers who use the handbook need to be familiar with schema theory, Whole Language instruction and the interactive nature of the reading process. The methods and strategies have been selected on the basis of their alignment with those approaches.

Based on the research cited in the review of the literature, teachers need to identify which words are appropriate for direct instruction, determine the depth of word knowledge needed for the instructional task at hand, and choose the best methods and strategies for their vocabulary program.

Teachers who use the handbook should expect that their students will develop a sense of word awareness, or a positive affective response to vocabulary acquisition. Students will use a wider range of vocabulary in their oral and written work, and their comprehension of both narrative and expository prose will be enhanced.

This project is not intended for ESL students who have special language development needs; nor is it meant for students in special education programs. Nevertheless, teachers of such students may find selected methods or strategies which may be beneficial for their students.

Although the project is targeted at the middle grades, teachers of primary, upper grades or high school might also find methods or strategies which could be adapted for use in their programs.

REFERENCES

Anderson, R. C. & Freebody, P. (1979). Vocabulary knowledge and reading. (Report No. CS-004-968). Cambridge, MA: Center for the Study of Reading.

Balajthy, E. (1988). Metacognition to whole language: The spectrum of literacy in elementary school science. (Report No. CS-009-448). Geneseo, NY: State University of New York at Geneseo. (ERIC Document Reproduction Service No. ED 301 865)

Beck, I. L., Perfetti, C. A., & McKeown, M. G. (1982). Effects of long-term vocabulary instruction on lexical access and reading comprehension. Journal of Educational Psychology, 74, 506-521.

Blachowicz, C. L. Z. (1987). Vocabulary instruction: What goes on in the classroom? The Reading Teacher, 41, 133-137.

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

Dewey, J. (1933). How we think. Boston: Heath.

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.

Gipe, J. (1979). Investigating techniques for teaching word meanings. Reading Research Quarterly, 4, 624-644.

Goodman, K. (1968). The psycholinguistic nature of the reading process. Detroit: Wayne State University Press.

Graves, M. F. (1987). The roles of instruction
in fostering vocabulary development. In M. G.
McKeown & M. E. Curtis (Eds), The nature of
vocabulary acquisition (pp. 165-184).
Hillsdale, NJ: Lawrence Erlbaum Associates.

Graves, M. F. (1989). A quantitative and
qualitative study of elementary school
children's vocabularies. Journal of
Educational Research 82, 203-209.

Herman, P. A. & Dole, J. (1988). Theory and
practice in vocabulary learning and
instruction. The Elementary School Journal,
89, 43-54.

Hodges, R. E. (1984). Vocabulary, ERIC digest.
(Report No. CS-208-652). Urbana, IL: National
Institute of Education. (ERIC Document
Reproduction Service No. ED 250 696)

Kameenui, E. J., Dixon, R. C., & Carnine, D. W.
(1987). Issues in the design of vocabulary
instruction. In M. G. McKeown & M. E. Curtis
(Eds.). The nature of vocabulary acquisition
(pp. 129-145). Hillsdale, NJ: Lawrence Erlbaum
Associates.

Kapinus, B. A. (1987). Vocabulary development: A
continuing need. (Report No. CS-008-756).
Baltimore, MD: Maryland State Department of
Education. (ERIC Document Reproduction Service
No. ED 280 016)

Klein, M. L. (1988). Teaching reading
comprehension and vocabulary: A guide for
teachers (pp. 59-92). Englewood Cliffs, NJ:
Prentice Hall.

Levin, J. R. (1980). The mnemonic 80's: Keywords
in the classroom. (Report No. CS-008-416).
Madison, WI: Wisconsin University, Research
and Development Center for Individualized
Schooling. (ERIC Document Reproduction Service
No. ED 269 729)

Levin, J. R., McCormick, C. B., Miller, G. E., &
    Berry, J. K. (1982). Mnemonic versus
    nonmnemonic vocabulary-learning strategies for
    children. American Educational Research
    Journal, 19, 121-136.

Levin, J. R., Dretzke, B. J., Pressley, M. &
    McGivern, J. E. (1985). In search of the
    keyword method/vocabulary comprehension link.
    Contemporary Educational Psychology, 10,
    220-227.

Marzano, R. J. (1983). A concept development
    based approach to vocabulary instruction.
    (Report No. CS-007-424). U.S. Department of
    Education. (ERIC Document Reproduction Service
    No. ED 237 940)

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

Nagy, W. E. & Herman, P. A. (1987). Breadth and
    depth of vocabulary knowledge: Implications for
    acquisition and instruction. In M. G. McKeown
    & M. E. Curtis (Eds.). The nature of
    vocabulary acquisition, (pp. 19-25).
    Hillsdale, NJ: Lawrence Erlbaum Associates.

Nagy, W. E. (1988). Vocabulary instruction and
    reading comprehension. (Report No. CS 009
    389). Washington, DC: Office of Educational
    Research and Improvement. (ERIC Document
    Reproduction Service No. ED 300 781)

Ruddell, R. B. (1986). Vocabulary learning: A
    process model and criteria for evaluating
    instructional strategies. Journal of Reading,
    29, 581-587.

Rumelhart, D. E. (1981). Schemata: The building blocks of cognition. In J. T. Guthrie (Ed.), Comprehension and teaching: Research reviews, (pp. 3-26). Newark, DE: International Reading Association.

Smith, E. B., Goodman K. S., & Meredith, R. (1970). Language and thinking in the elementary school. New York: Holt, Rinehart & Winston.

Stahl, S. A. (1986). Three principles of effective vocabulary instruction. Journal of Reading, 29, 662-667.

Stansell, J. C. & DeFord, D. E. (1981). When is a reading problem not a reading problem? Journal of Reading, __, 14-20.

Sternberg, R. J. (1987). Most vocabulary is learned from context. In M. G. McKeown & M. E. Curtis (Eds.), The nature of vocabulary acquisition (pp. 89-105). Hillsdale, NJ: Lawrence Erlbaum Associates.

Venezky, R. L. (1987). A history of the American reading textbook. The Elementary School Journal, 87, 246-263.

APPENDIX A

A Model of the Interactive Reading Process

DECLARATIVE AND
PROCEDURAL KNOWLEDGE

Decoding   World

Language

B

READER
ENVIRONMENT

Textual
Features

Conversational A
Features

Instructional
Features

KNOWLEDGE UTILIZATION
AND CONTROL

Affective State
   goal direction;
   content & time
   expectations

Cognitive State
   plan of action
   over time

Metacognitive State
   monitor &
   evaluate

Text
Representation
   processing &
   meaning of a
text to a
   given time

E

C

D

A teacher/text/student
   interaction

B student's memory

C student's text
   representation

D text comprehension

E storage of new
   knowledge

1. Comprehension
2. Word Recognition
3. Oral Output
4. Written Output
5. Affective State Change
6. Cognitive State Changes
7. Metacognitive State Change
8. New Knowledge

READER PRODUCT

Ruddell (1986, p. 583)

APPENDIX B

THREE PART PLAN FOR LEARNING WORDS

Learning Words:
    Learning to read unknown words
    Learning new meanings for known words
    Learning new words representing known concepts
    Learning new words representing new concepts
    Clarifying and enriching the meanings of known
        words
    Moving words from receptive to expressive
        vocabularies

Learning to Learn Words:
    Using context
    Learning and using word parts
    Using the dictionary and thesaurus
    Developing an approach to dealing with unknown
        words
    Adopting a personal approach to building
        vocabulary

Learning about Words:
    Learning what it means to know a word
    Learning that word meanings vary and how they vary
    Recognizing and manipulating relationships among
        words
    Learning to recognize and use figurative language
    Learning to value words

(Graves, 1987, p. 167-180)

APPENDIX C

HANDBOOK OF STRATEGIES AND METHODS

FOR TEACHING VOCABULARY

IN THE MIDDLE GRADES

Table of Contents

Introduction

A crucial component of the elementary reading program is vocabulary acquisition. In the middle grades it becomes even more critical, because students are expected to read more complex text than they met in the primary grades. Beginning in fourth grade students encounter more content material and more sophisticated literature. They must expand their vocabularies not only by thousands of words per year, but to a thorough depth of understanding of the concepts represented by the new words.

The benefits of a strong vocabulary development program for students are three-fold. First, a larger vocabulary will enable students to better comprehend the reading texts they must master. The ability to understand difficult texts in turn provides the students with greater access to the basic knowledge of their culture and a greater ability to succeed academically. Second, a deep knowledge of vocabulary meanings will help students to appreciate figurative language and idiomatic expressions, giving them a better opportunity to enjoy their literary heritage. Finally, students with wider vocabularies are better

able to express themselves both orally and in written work.

The challenge for middle grade teachers is to employ the best strategies and methods to help their students master the vocabulary required for success in their curriculum. This handbook meets the guidelines for an effective vocabulary program established by Carr and Wixon (1986, pp. 589-592):

1. Instruction should help students relate new vocabulary to their background knowledge.

2. Instruction should help students develop elaborated word knowledge.

3. Instruction should provide for active student involvement in learning new vocabulary.

4. Instruction should develop students' strategies for acquiring new vocabulary independently.

Teachers who use this handbook should become familiar with the whole language teaching model, the schema theory of learning, and the interactive nature of the reading process. The handbook does not contain ready made worksheets, lessons plans, or comprehensive word lists. The successful use of this

handbook depends on a knowledgeable teacher who is adept at facilitating student discussions, who has a thorough knowledge of the concepts across the curriculum, and who has a deep commitment to teaching students how to learn as well as what to learn.

Not all methods and strategies presented here should receive equal emphasis in the classroom. Teachers need to be selective in choosing which to implement. Some activities are designed for use with narrative, others with expository reading passages. Some oral discussion methods are best used to promote interest in vocabulary development, others stress higher thinking skills in determining word relationships. Teachers using the handbook need to evaluate the possible benefits for their students in implementing strategies and methods contained therein.

During the course of a school year it would be wise to introduce students to a variety of strategies since what works best for some students may not work as well for others. Instruction will be enriched through a variety of approaches, and student interest will be easier to maintain at a high level.

ASSOCIATION METHODS

Introduction

The methods contained in this section promote association of new vocabulary with prior knowledge, related groups of terms under study in a unit, and direct experience. Linking new words with known synonyms or antonyms ties the new knowledge to existing schemata. Studying groups of related words through a conceptual approach provides the students with new schemata while expanding or restructuring existing schemata. Direct experiences provide the students with a sensory approach to learning new vocabulary.

Teachers need to select which methods will prove most productive to the lesson at hand. In some cases students will compile study cards or construct diagrams showing a word's relationship to other terms. In other cases classroom discussion will be more useful. There are a variety of activities including listening, speaking, reading, and writing to engage the students' total language abilities. The methods in this section are somewhat traditional, relying on teacher-provided definitions or student-generated definitions and familiar synonyms; however, stilted dictionary definitions learned in

isolation from text are not appropriate. Students

who have received definitional vocabulary instruction

in the past may need help from the teacher to

understand why conceptual methods will be more

successful.

Word Cards

Students can select words which interest them, or words can be selected by the teacher. The students compile a set of study cards, each containing the target word, a personal example related to the target word, and two known synonyms. The cards can be prepared individually or within a group during discussion of the words under study. The association of the new word with a personal experience and known synonyms helps lock in the meaning without use of a stilted definition.

An example of a card written by a student follows. The student related the new word to a poorly behaved neighbor child and two familiar synonyms (Carr and Wixson, 1986).

```
obnoxious


        Jonathan

    offensive
    unpleasant
```

These sample cards come from a student's selection of words to remember from <u>Sarah, Plain and Tall</u> by Patricia MacLachlan:

```
energetic

            Coach Hought

      active

      busy
```

```
coarse

            playground sand

      rough

      bumpy
```

```
whickering

            Thunder

      horse talk
```

Vocabulary Overview Guide

Similar to the Word Card method, the Vocabulary Overview Guide (Carr, 1985) requires the student to relate a new word to a personal experience or example and to known synonyms. In addition to these steps, however, the student also records the category or classification to which the target word belongs. This method lends itself to a unit of study in which a group of related words must be mastered. Students should learn to apply this study method independently.

category

target word

personal example

known synonym

known synonym

The following set of study cards is based on vocabulary words from a unit on frontier life in America.

---

people

homesteaders

<u>Little House on the Prairie</u>

settlers

pioneers

---

mining term

bonanza

TV show "Bonanza"

a mine full of silver

sudden good luck

Word Map

The more relationships a student can make between a new word and his/her prior knowledge, the deeper the understanding of the new word will be. In a Word Map (Carr & Wixson, 1986) the student gives examples and short descriptions to help lock in the meaning of a new word. The following examples come from a geography unit.

What is it?

```
                    ┌──────────┐
                    │ landform │
                    └──────────┘
                         │                    What is it like?
                         │
                         │              ┌─────────────────────┐
                         │              │ surrounded by water │
                         │              │ on three sides      │
                    ┌──────────┐────────└─────────────────────┘
                    │ peninsula│
                    └──────────┘────────┐
                    ╱     │     ╲        │ ┌──────────────────────┐
                   ╱      │      ╲       └─│ connected to land on │
                  ╱       │       ╲        │ one side             │
                 ╱        │        ╲       └──────────────────────┘
                ╱         │         ╲
       ┌─────────┐  ┌──────────┐  ┌───────────────────┐
       │ Florida │  │ Yucutan  │  │ Baja, California  │
       └─────────┘  └──────────┘  └───────────────────┘
```
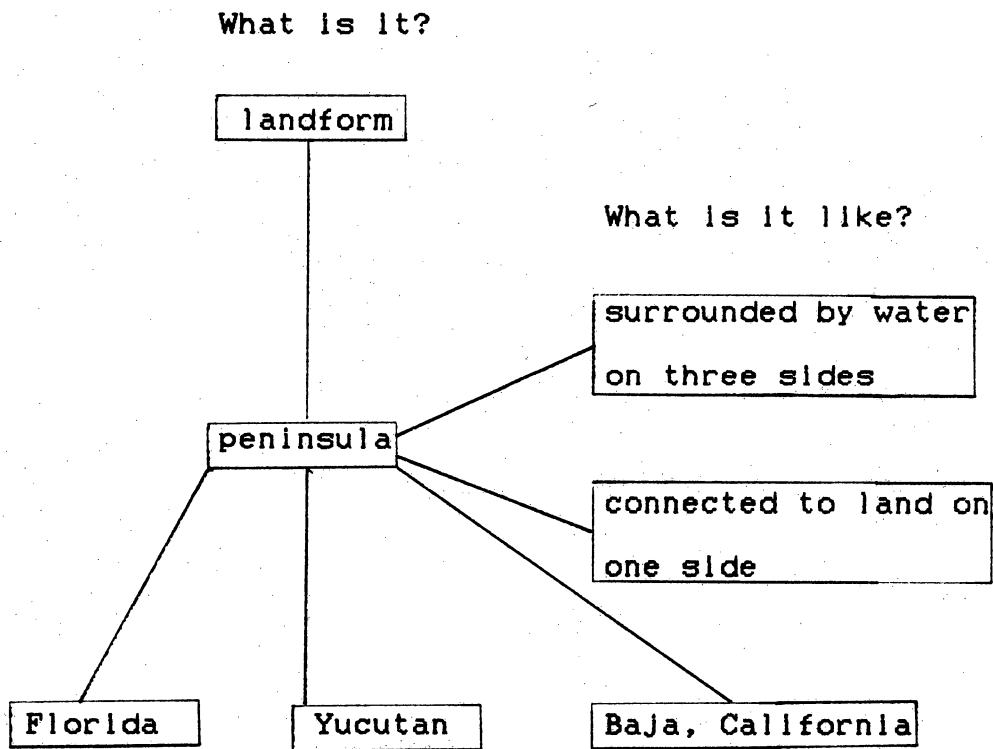
What are some examples?

What is it?

| body of water |

What is it like?

| large body of still water |

| lake |

| natural or man-made |

| fresh water |

| Tahoe | | Cahulla | | Shasta |
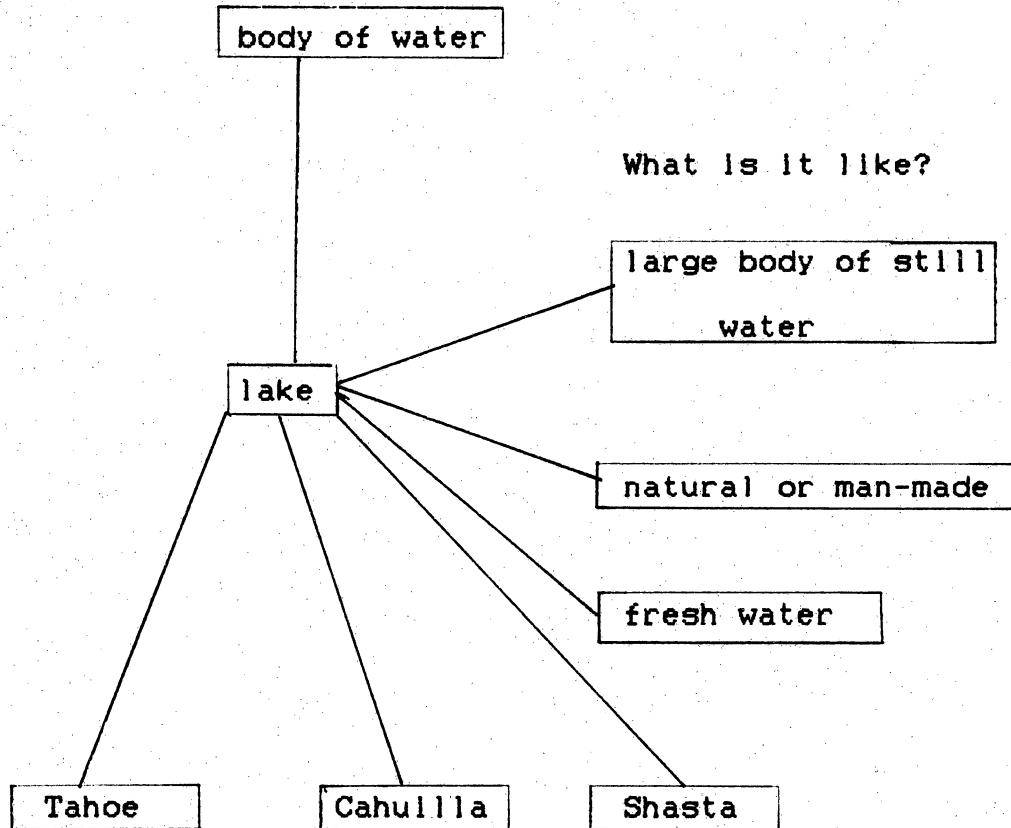
What are some examples?

Subjective Approach to Vocabulary

This method relies greatly on quality classroom discussion. Teachers need to plan the lesson by preparing informative, concept-rich introductions for the words under study. The teacher should always have a working assessment of the extent of the students' overall vocabulary knowledge; this can be accomplished through informal means such as observing classroom discussions and reading student papers.

The SAV helps students relate new words to their prior knowledge, emphasizing a subjective, personal response (Casale & Manzo, 1982). Instead of memorizing a stilted dictionary definition, students are encouraged to relate each word to their own background knowledge. A stimulating class discussion also provides the students with a meaningful language experience in which the teacher models the correct use of the new vocabulary. (See the Discussion Methods section of this handbook.)

The SAV steps are:

1. The teacher introduces the word and its definition, which the students copy on study cards.

2. The students discuss the word and write
    something the word reminds them of on their
    cards.

3. The students read the passage containing the
    target words.

4. The students discuss the passage, using the
    target words.

Opposition

Association of an opposite or polar meaning with
the target word helps strengthen the reader's network
of concepts related to a word's meaning. Powell
(1986) explained, "Perception of opposition is the
active principle of a language act. When once an
opposition is established and its principle
understood, then either opposite, or any intermediate
term, can be at once be defined and delimited by its
contradiction or by degree to the opposition" (p.
619).

Powell described three basic forms of
opposition. The first type demonstrates a polar
opposite as in single/married. The second shows the
extremes of a continuum as in dry/wet. The third
type represents an undoing as in tied/untied.
Teachers need to demonstrate and explain each type
and help students recognize examples in their
reading. An area of the Word Cards or Vocabulary
Overview Guide cards could be assigned to record an
antonym to the target word. (Also see the Verbal
Seriation/Linear Display Strategy in the Graphic
Organizers section of this handbook.)

Affective Responses

Another association students make with new words is an affective, or emotional, response. Part of a vocabulary instruction program devised by Beck and McKeown (1983) required students to call out "yay" or "boo" when the teacher read a list of words containing, for example, "hermit, virtuoso, and miser" (p. 623).

When a fourth grade class read Sid Fleishman's The Whipping Boy they generated the following web of insulting, negative words which the young boys addressed to their kidnappers.

<pre>
                    highwayman

         curs   fools

      cutthroats   clods

     outlaws   ruffians

     murderers | The Kidnappers | rogues

      vagabonds   oafs

       numskulls   scoundrels

         villains   dimwits

                     outlaws
</pre>
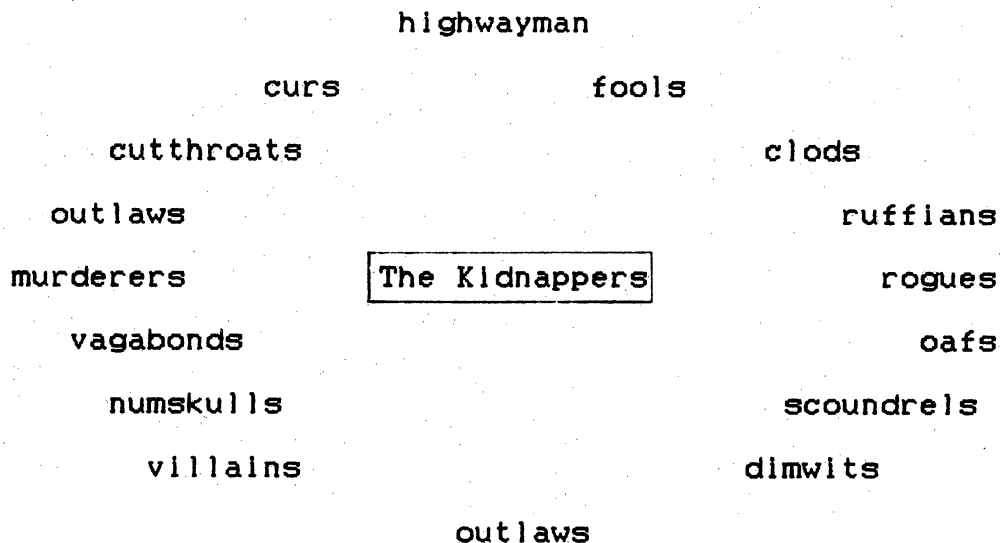
Mystery Word

A game format activity which helps students link
vocabulary words with a network of concepts is
Mystery Word (Kaplan and Tuchman, 1980). The teacher
selects a word and writes a series of clues about it.
S/he reveals one clue at a time on an overhead
transparency. Students make guesses based on the
clues until the word is correctly identified.
Students may work alone or in teams, and points can
be given for the first correct answer using the
fewest clues. Here are two examples for science
vocabulary.

Target Word: aluminum

1. I am a soft, non-magnetic metal.
2. I am found with bauxite deposits.
3. I conduct heat easily.
4. You might find me in your kitchen or automobile
   engine.
5. Cans made of me are redeemable at a recycling
   center.

Target Word: circuit

1. I am the path in which electricity travels.
2. Sometimes I'm open and sometimes I'm closed.
3. I am controlled by a switch.
4. On transistors I travel through flat wires.
5. In computers I am contained on a silicon chip.

Direct Experience

Association of a new word with a direct experience is the most effective means of learning vocabulary. Whenever possible teachers should provide students with hands-on activities or with objects or pictures to demonstrate new vocabulary. This procedure was used effectively in a health program on the effects of tobacco on the human body.

Grubaugh and Molesworth (1980) reported on the classroom lessons which demonstrated the meanings of tobacco, nicotine, cigarette, reaction, and abuse. The teacher brought a cigarette smoking machine to class to demonstrate the act of smoking and its effect on the classroom atmosphere. Students dissected a cigarette and took a taste of the raw tobacco. A former smoker came to class and described nicotine addiction. The teacher elicited a reaction from the class by suddenly shouting aloud during a silent work period before giving them a list of twelve bodily reactions to cigarette smoke. All the vocabulary words were discussed in depth. For example, abuse was discussed in respect to its component parts, the prefix ab-, meaning away from, and the root word use.

Teachers need to examine their curriculum for instances in which direct experience can strengthen their vocabulary development program.

Morphemes

Students in the middle grades are challenged to learn many technical terms in science, math, and social studies. Learning the meanings of morphemes, including prefixes, suffixes, and root words, in these special areas of the curriculum will enable them to attach meaning in context when they read textbooks.

Teachers should examine their classroom textbooks to locate words containing morphemes to present to the class prior to reading. Through discussion the students can relate the new word to known words which contain the same morpheme/s. Teachers can find lists of morphemes in reference books and in some textbooks.

Burmeister (1976) recommended that students make morpheme word collections from all the areas of the curriculum to strengthen their associations with the meanings of each morpheme. A minimal list of suggestions from Burmeister (1976) follows (p. 151-153):

Morphemes

ENGLISH	SCIENCE
pre-	-logy
-logy	epi-
mono-	multi-
para-	retro-
	tele-
	ultra-

MATHEMATICS	SOCIAL STUDIES
-gon	auto-
-meter/-metry	bi-
circum-	dem(o)-
bi-	epi-
tri-	-gamy
quad/quadri/quadru-	the(o)-

A Cluster Approach

Applying the research which demonstrates that students learn vocabulary best when new words are learned in related groups, Marzano (1984) developed a list of word clusters. His list includes the 7,230 most commonly used words from word frequency lists. Marzano categorized the words into semantically related clusters applicable to classroom instruction. His final organization falls into three parts, 61 superclusters, 430 clusters, and more than 1,500 miniclusters. Marzano's list is useful for teacher reference when units of study are developed. Teachers can readily locate vocabulary related to the unit and determine which words are applicable to their students.

A listing of the first fifteen superclusters with some component words follows (p. 170):

1.	Occupations	career	manager	mayor
2.	Types of motion	action	begin	stillness
3.	Size/ quantity	tiny	large	amount
4.	Animals	pet	dog	snake
5.	Feelings/ emotions	feeling	terror	shame

6.	Food types/ meal names	food	supper	meal
7.	Time	lifetime	noon	season
8.	Machines/ engines/tools	equipment	engine	oven
9.	Types of people	person	woman	boy
10.	Communication	explain	talk	suggest
11.	Transportation	car	plane	jeep
12.	Mental action	thinking	wonder	plan
13.	Nonemotional human traits	nice	lazy	sure
14.	Location/ direction	here	back	end
15.	Literature/ writing	story	novel	poem

Discussion Methods

Introduction

Children first acquire language through listening and speaking. Students need to continue their vocabulary development through discussions which reveal the meaning and use of new words and demonstrate how familiar words are used in new contexts. Relationships among and between words are examined in meaningful discussions. Teachers can facilitate their students' vocabulary acquisition through stimulating discussions based on topics under study or vocabulary contained in literature selections read by the group. Students should be encouraged to use their growing vocabularies in a risk-free environment in the classroom.

Koeller (1981) explained the importance of oral discussion in vocabulary development when she wrote, "Vocabulary is thus emphasized in a realistic, communicative way because children hear, see, discuss, understand, repeat, label, and use related and contrasting words" (p. 139). During discussion students access, expand, and reformulate their existing schemata based on information gained from the verbal interaction among the group.

The discussion methods contained in this section depend for their success on a skillful teacher who knows the students' current language abilities and is able to conduct discussions which maintain focus on the topic and lead to conclusions or resolutions which satisfy the participants. All members of the group should have the opportunity and be encouraged to participate.

Brainstorming

Brainstorming is a way to help students activate their prior knowledge. It is a tool by which the teacher can ascertain the students' current knowledge about a given subject before a unit of study begins. The teacher needs to set a purpose for the brainstorming session before beginning, and decide to what extent s/he will take the brainstorming session.

In its most simple form, brainstorming is a means to establish a word list. The teacher writes the topic on the board and asks the students to tell all the words they know about the topic. The teacher records all the responses on the board. It may suit the purpose better to set aside five minutes for students to record their words individually on paper before contributing to a group list.

Responses may be recorded in a circular manner around the topic word or in a series of columns or at random on the board. Brainstorming is sometimes called "semantic mapping" (Nagy, 1988) because of the visual nature of the displayed responses.

This process can be used to generate word lists prior to a writing session. Less able students may need more assistance in recalling what they know as

they exert themselves to write. Brainstorming

provides the teacher with an informal measure of the

students' vocabulary. Brainstorming is also a means

of demonstrating to all the students the depth and

breadth of vocabulary knowledge possessed by their

peers in a non-judgmental manner.

Blachowicz (1986) considered the problems faced

when the group is not responsive to the brainstorming

process or when the teacher is introducing a topic

s/he knows is unfamiliar to the students. In those

cases, she recommended the use of "exclusion

brainstorming" (p. 645) in which the teacher presents

a prepared list of words for the students to examine

and sort. Students give their rationale for

including or excluding words from the list. Students

also may suggest additional words for the topic when

they can justify their contributions.

List-Group-Label

This extension of the brainstorming process was developed by Taba (in Readence and Searfoss, 1980). Once the students have given about twenty-five responses to the topic, the teacher stops taking suggestions. Then s/he has the group read their list to review all the words. Individually or in small groups the students next select three words from the list which they believe can be semantically related in a sub-category. They report their results to the group, explaining their reasoning. This is a critical step, as the thinking of peers is modeled for the group. Students can develop as many such categories as they can justify. A major benefit of this process is that there are no "right" or "wrong" answers. Students are encouraged to base their groupings on their own thinking.

This discussion method also works well at the end of a unit of study. Students should be able to discern and describe the relationships among the concepts which they have learned in the unit. The following example comes from a unit on the desert.

Desert

sand	toads	coyotes	cactus
owls	irrigation	rocks	mountains
wind	palm trees	roadrunners	rattlesnakes
lizards	tortoises	palo verdes	hot
quail	sand storms	scorpions	bighorn sheep
burros	mesquite	dry	rabbits
doves	javelina	vultures	kangaroo rat

Food chain: cactus, lizard, roadrunners

Things that hurt: cactus, rattlesnakes, scorpions

Weather: wind, hot, dry

Can fly: owls, doves, quail

Endangered: tortoises, bighorn sheep, (fringe-toed)
    lizards

The land: sand, rocks, mountains

Brought by people: burros, irrigation, (date) palm
    trees

Concepts First

In order to focus the students' attention on the concepts underlying new terms Nagy (1988) recommended that teachers present the concept before revealing the target word. He wrote, "there is the danger of treating these new words simply as new labels, rather than as new concepts...the function of vocabulary that teachers should be more interested in promoting is the way new words enable us to conceive of and express new ideas" (p. 11). In the following example, student interest would be piqued by discussion before they learned the target word (p. 11):

"Have you ever had the feeling that something was going to go wrong, or that something bad was going to happen? Not that you had any good reason to think that -- just a sort of a feeling. Has anyone ever had such a feeling? Did something bad actually happen?"

Following discussion, the teacher would reveal the target word, premonition.

Connect Two

Connect Two (Blachowicz, 1986) is an enjoyable way to stimulate student interest in a reading selection while developing vocabulary concepts. The teacher lists appropriate words from a reading selection on the board. Students pick two words and tell how they might be connected in a story. Multiple responses should be encouraged.

Semantic Relationships

Schemata are defined not only by their contents, but by what they exclude. Words which have related meanings in one context may seem to be entirely unrelated in others. Beck and McKeown (1983) created semantically related word lists including people, eating, and how we move our legs. For the list about people they created the questions below (p. 624). Unless the two words were mutually exclusive, the students would conclude that the two terms could refer to the same person.

    1. Could a virtuoso be a rival?

    2. Could a philanthropist be a miser?

This method could be expanded by having the students generate lists of related words first. (See A Cluster Approach in this handbook.) They could list foods, modes of transportation, clothing, and careers, for example, then create questions revealing the relationships among and between the words on their lists.

    1. Would you serve hot dogs at a banquet?

2. Does a barge travel across mountains?

3. When would you wear a mackinaw in the
    desert?

4. Can an architect design a playground?

Generating New Contexts

Deep level processing occurs when students use new words they study In new ways. Whether the vocabulary Is employed In wrItten or spoken contexts, the students' learnIng experIence Is enrIched. The students combIne the new knowledge wIth what they already know and synthesIze the two Into a new product. Oral dIscussIon allows students to hear many examples of correct usage of new terms In context.

Teachers In a vocabulary development program developed by Beck and McKeown (1983) IntroducedwordsaboutpeoplebyprovIdIngseveralactIonswhIchthepeoplewould do. For example, an accomplIce mIght drIve a get-away car and hIde hIs partners. Such contextually rIch defInItIons help students develop schemata related to new words. Once the new words had been IntroducedIn thIs manner students were asked to tell another thIng that an accomplIce mIght do. ThIs actIvIty could be expanded to ask students to name actIons whIch the person would not do.

Open-ended questIons were posed for other words. "Tell somethIng you would lIke to eavesdrop on...DescrIbe the most melodIous sound you can thInk

of" (p. 624).   This method encourages students to relate new vocabulary to their own lives, making rich associations for the new information.

The effectiveness of quality discussions cannot be overemphasized.   (See the Discussion Methods section of this handbook.)

Self-Selection Strategies

Introduction

A major aim of education is that students will
take command of their own learning. Teachers need to
assist students as they gain power over the learning
process by teaching them strategies that apply to
many learning situations. Readers need to be aware
when they lose meaning during reading due to lack of
knowledge of word/s in the passage. When context is
insufficient to supply meaning, students need to
employ other strategies to determine meaning.

Self-selection of vocabulary to study gives
students a sense of power over the learning process.
Teachers need not create vocabulary lists with weekly
tests when students are actively pursuing new words
to learn. Teachers can foster this positive learning
attitude through sponsoring word collection programs,
through modeling of their own learning, and by
maintaining a print-rich environment in the
classroom.

Silent Sustained Reading

Vocabulary is gained in a cumulative manner, through a long-term process. Nagy (1987) found that the "sheer volume of exposure to the language may be the single most important factor accounting for differences in the contribution of learning from context to vocabulary growth" (p. 240). Since students must master thousands of words per year, and there simply is not sufficient time to directly teach each one, Nagy recommends an SSR program be part of each classroom's daily routine.

SSR programs may be run in a variety of ways. A basic requirement is that the reading material be chosen by the student. A silent reading period should be held each day, for fifteen minutes or more. Following reading students may engage in short discussions about the reading they've done or record their reading in a reading log; however, a tedious assignment that makes students regret having read at all will obviously defeat the purpose of the SSR.

Programs which encourage a large volume of reading at home will also provide students with more opportunities to encounter new words in context. "Book It," sponsored by Pizza Hut Inc., is one such

program. Students who read an appropriate number of
books in a month receive a ticket for a free pizza.
School-wide reading programs such as Read-a-thons and
Reading Olympics, or B.E.A.R. (Be Enthusiastic About
Reading) will also encourage a greater volume of
student reading.

Capsule Vocabulary

A modified approach to self-selected vocabulary
is the Capsule Vocabulary approach developed by Crist
(1975). In this case the students list topics which
they like to discuss with friends, and about which
they would like to have a better vocabulary so as to
sound more knowledgeable in conversations. The
teacher, using his/her assessment of the students'
verbal abilities, makes a list of eight to twelve
words about the topic. The words should "be on the
threshold of the group's recognition - words they
have perhaps seen or heard but have been reluctant to
try" (p. 148).

At the beginning of a class session the teacher
introduces, defines, and models the use of each word.
The students write the words and meanings for their
own reference. During the next part of the lesson
the students hold a sample conversation about the
topic, using the new words at least once. In the
final step students write a short story about the
topic, again using the new words.

The effect of choosing a topic results in a
positive affective response to the lesson. As

students establish oral command of more words they
gain confidence in their oral expression.

Listed below are words prepared for students in
a fifth grade class for topics the students listed.

<u>Music</u>	<u>Food</u>
bass	a la carte
classical	buffet
rhythm	gourmet
melody	aroma
chorus	spices
tone	courses
harmony	appetizer
orchestra	natural
round	banquet

<u>Sports</u>	<u>Friendship</u>
tournament	loyalty
competitors	amicable
rivals	confide
sportsmanship	ally
athletics	sympathetic
triumphant	fondness
victorious	faithful
vanquished	supportive
dominate	companion

Word Wizards

This motivational vocabulary program designed by Beck and McKeown (1983) encourages students to find examples of real-world usage of words studied in class. Students contributed examples of the use of the target words in advertisements, newspapers, TV or radio broadcasts, conversations, books, and cases in which they employed the word themselves. The students' contributions were placed on a classroom bulletin board, and students won points for documenting the usage of each word. This program encouraged students to encounter words more frequently and in a greater variety of contexts than they would find them in school texts alone.

Teachers who implemented the Word Wizards program noticed their students using the target words outside of class. In some instances, the results were humorous. For example, the "children would occasionally cause a minor disruption...at an assembly when a speaker used one of the taught words and the entire class would buzz with recognition (p. 625).

As a variation of this program, students could be encouraged to work in groups or teams to collect

examples for the bulletin board, or classroom

competitions could held for a period of time.

Individual collections in notebooks would create a

profitable long-term implementation of Word Wizards

for students who enjoy maintaining such collections.

Etymology

The level of interest students achieve in learning new words can be enhanced through personalizing the word study. One high-interest activity is investigating the meaning of one's own name. Richek (1988) assigned her students to research the meanings of their names. Then they branched out to investigate the history of the names of automobiles, inventions, place names, and food words. Not only did students encounter many interesting examples of word meanings and word histories, but they were encouraged to pursue the study of words as a pleasurable activity. Dictionary and reference materials were used purposefully.

Other categories students might like to study include sports terms, the names of the days of the week or months of the year, and holiday names.

Vocabulary Self-Selection Strategy

Developing a positive attitude toward vocabulary acquisition is the purpose of this strategy developed by Haggard (1986). Each student and the teacher selects and introduces a word to the class that he/she thinks the class should know. The teacher records the word list on the blackboard. After the list is complete the class chooses which new words to study for the week.

A variation of this strategy allows each student to select his/her own list; or the group could select common words for part of the list while each student chose the remainder of his/her personal list to study.

Spoken Words

This activity is similar to the Vocabulary Self-Selection Strategy insofar as each member of the class chooses a word to present to the group. In Spoken Words, developed by Grubaugh (1985), however, the student introduces his/her word through a story or anecdote about or containing the target word. The remainder of the class records the new word and a short summary of the story or anecdote in a vocabulary notebook. Once each student has presented a required number of words s/he takes a test on the list. The student first completes a set of directions as follows and then writes an original sentence using the target word.

Test Questions (p. 66):

1. write a definition

2. write a synonym

3. provide an associative word

or

4. write "no response"

Vocabulary Scavenger Hunt

This strategy, presented by Vaughn, Crawley and
Mountain (1979), provides students with another way
to contribute words to the class. At the beginning of
a unit of study the teacher prepares a chart like the
following which students first complete independently
prior to reconciling their responses with a group (p.
66):

Land Vehicles	Water Vehicles	Air Vehicles

Jeep	plane	kayak	ambulance
jet	barge	rocket	helicopter
taxi	hearse	blimp	tugboat
canoe	sloop	tanker	convertible
yacht	glider	trolley	carriage

Once the group has completed the chart, each
person brings pictures, drawings, or tracings of the
listed items to gain points for his/her team. The
team with the most illustrations wins.

As a variation of the activity, students could contribute appropriate items which were not listed by the teacher and receive extra points.

In another variation the teacher could provide the chart and teams could try to find as many examples as possible in a given time. For example, a unit on simple machines would lend itself well to this purpose. Students could compete to find instances of the application of the various simple machines in their homes, and around the school or neighborhood.

Lever	Pulley	Screw	Wheel & Axle	Inclined Plane

Knowledge Rating

Raising the students' level of awareness about word knowledge benefits them as they develop metacognitive strategies in reading. Metacognitive strategies help students monitor their own comprehension as they read. When students come to a passage which they do not comprehend because there are unfamiliar words, they can use other strategies to determine word meaning. Students need to be aware of the extent of their developing vocabularies.

When the teacher introduces vocabulary prior to reading a selection it is a good time to ask students to rate their knowledge of the target vocabulary. That gives the teacher an idea of the students' knowledge and alerts students to gaps in their vocabularies.

Most often students believe that they either do or do not "know" a word, without realizing that there are many levels of knowing. The scale designed by Blachowicz (1986) is very simple, having just three parts:

Can define   Have seen/   Don't know
                     heard

A more sophisticated scale would require students to make a finer determination of their level of word knowledge, as well as raise their awareness of the various stages of meaning acquisition.

1. I've never heard or seen the word.

2. I think I've heard or seen the word before.

3. I know I've heard or seen the word, but I don't know what it means.

4. I know what the word means if it is used in a sentence.

5. I can use the word in a sentence, but I can't explain what it means.

6. I can tell what the word means and I can use it in a sentence.

7. I know more than one meaning for the word and I can use all of them in sentences.

Graphic Organizers

Introduction

Graphic organizers were originally developed to assist students with mastering a large number of concepts related to a unit of study in a content area. There are many ways to design a graphic organizer; the choice depends on the purpose of a lesson. Horton, Lovitt and Bergerud (1990) describe the basic requirement of a graphic organizer. "The unifying element underlying the various graphic terms is the visuospatial arrangement of information containing words or statements that are connected graphically to form a meaningful diagram" (p. 12).

Graphic organizers include semantic webs, maps and networks, flow charts, structured overviews, tree diagrams, and charts and tables. The simplest form is a visual outline of chapter headings which the teacher presents to students prior to reading the chapter in order to give the students an overview of the content of the chapter. More complex graphic organizers can chart the plot of a story or show the flow of energy through a food web. Students should learn to design their own graphic organizers as a personal study method.

Structured Overview

The structured overview is a pre-reading activity which helps students preview the content of a chapter or passage they will read. The teacher designs and presents the structured overview to the students. The ideas are hierarchically arranged as shown in this diagram by Vacca (1981, p. 62):

```
                    ┌─────────────────────┐
                    │Superordinate Concept│
                    └─────────────────────┘
                      /                 \
                     /                   \
      ┌──────────────────┐        ┌──────────────────┐
      │Coordinate Concept│        │Coordinate Concept│
      └──────────────────┘        └──────────────────┘
        /          \                /          \
  ┌──────────┐ ┌──────────┐  ┌──────────┐ ┌──────────┐
  │Subordinate│ │Subordinate│  │Subordinate│ │Subordinate│
  │  Concept  │ │  Concept  │  │  Concept  │ │  Concept  │
  └──────────┘ └──────────┘  └──────────┘ └──────────┘
```
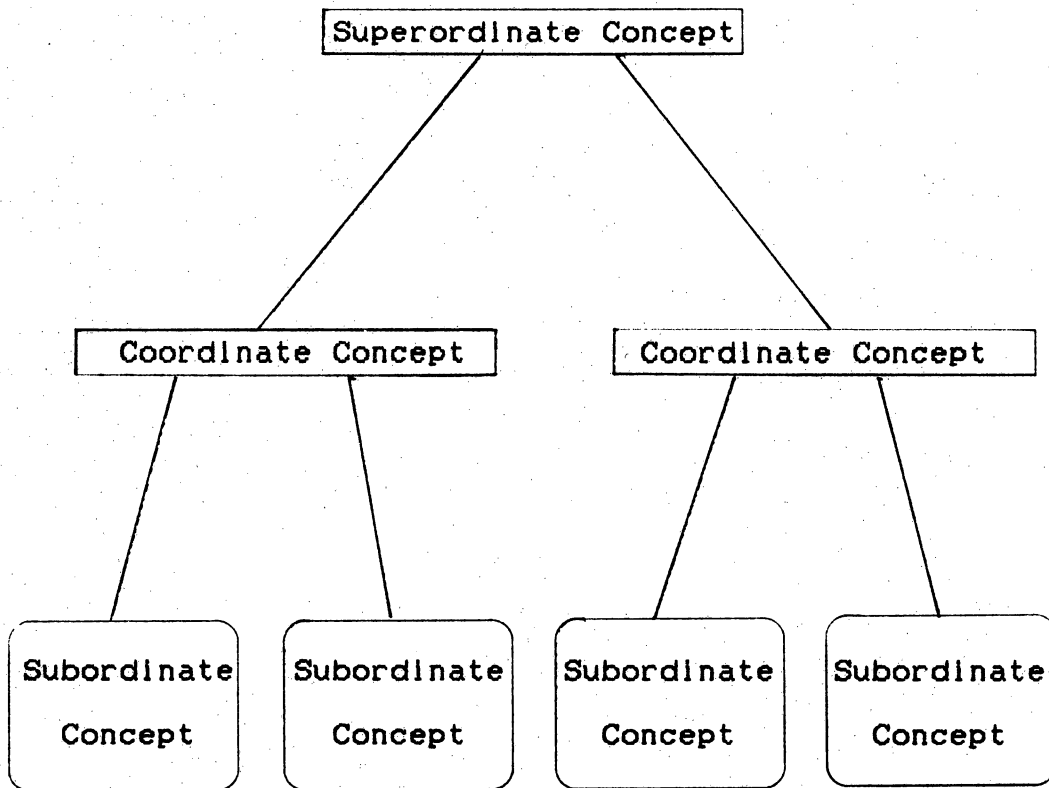
Below is a structured overview of a unit on forecasting weather for the fifth grade.

```
                    ┌─────────────────┐
                    │ Weather Patterns│
                    └─────────────────┘
                    /                 \
        ┌──────────────────┐      ┌──────────────────┐
        │ Measuring Weather│      │ Observing Weather│
        └──────────────────┘      └──────────────────┘
         /     │      \            /              \
   ┌──────┐    │   ┌──────────────┐  ┌──────────┐  ┌──────────┐
   │ wind │    │   │ air pressure │  │ weather  │  │ weather  │
   └──────┘    │   └──────────────┘  │ stations │  │satellites│
                                     └──────────┘  └──────────┘
   wind vane       barometer

   anemometer                         weather        cloud

                                       balloons       cover
   wind sock
                                      radar          major
        ┌───────────────┐
        │ precipitation │            buoys          storms
        └───────────────┘

   rain gauge
```
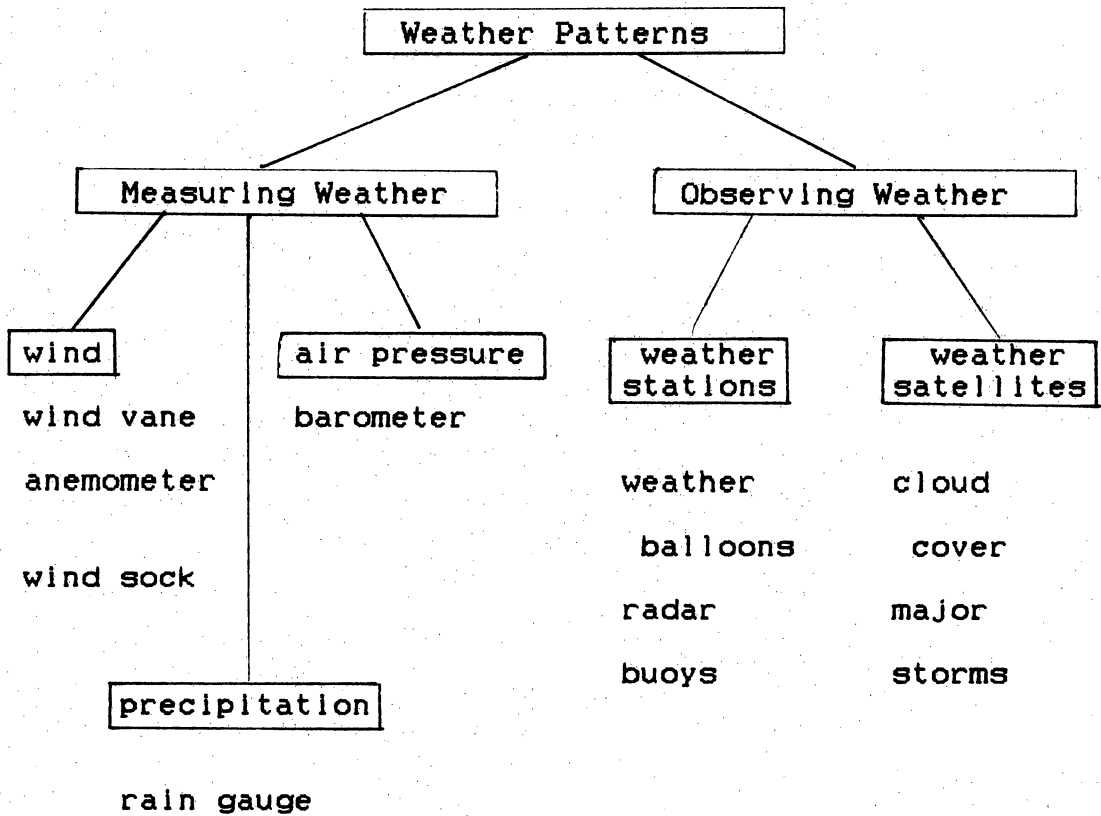
A structured overview designed by Dupuis and Snyder (1983, p. 301) for a science unit on "The Biosphere and Its Inhabitants" follows:

```
                    ┌─────────┐
                    │ ecology │
                    └────┬────┘
                         │
                    ┌─────────┐
                    │ecosystem│
                    └────┬────┘
                         │
                    ┌─────────┐
                    │biosphere│
                    └────┬────┘
                         │
        ┌───────┐   ┌─────────┐
        │ niche ├───┤ habitat │
        └───────┘   └─────────┘
              ╱         │         ╲
        ┌──────┐    ┌─────┐    ┌───────┐
        │ land │    │ air │    │ water │
        └──────┘    └─────┘    └───────┘
                                 ╱       ╲
                        ┌────────────┐  ┌────────────┐
                        │ salt water │  │ fresh water│
                        └────────────┘  └────────────┘
```

oxygen

soil   plankton   dormant

temperature   predators   standing

light   scavengers   constant

moisture   moving
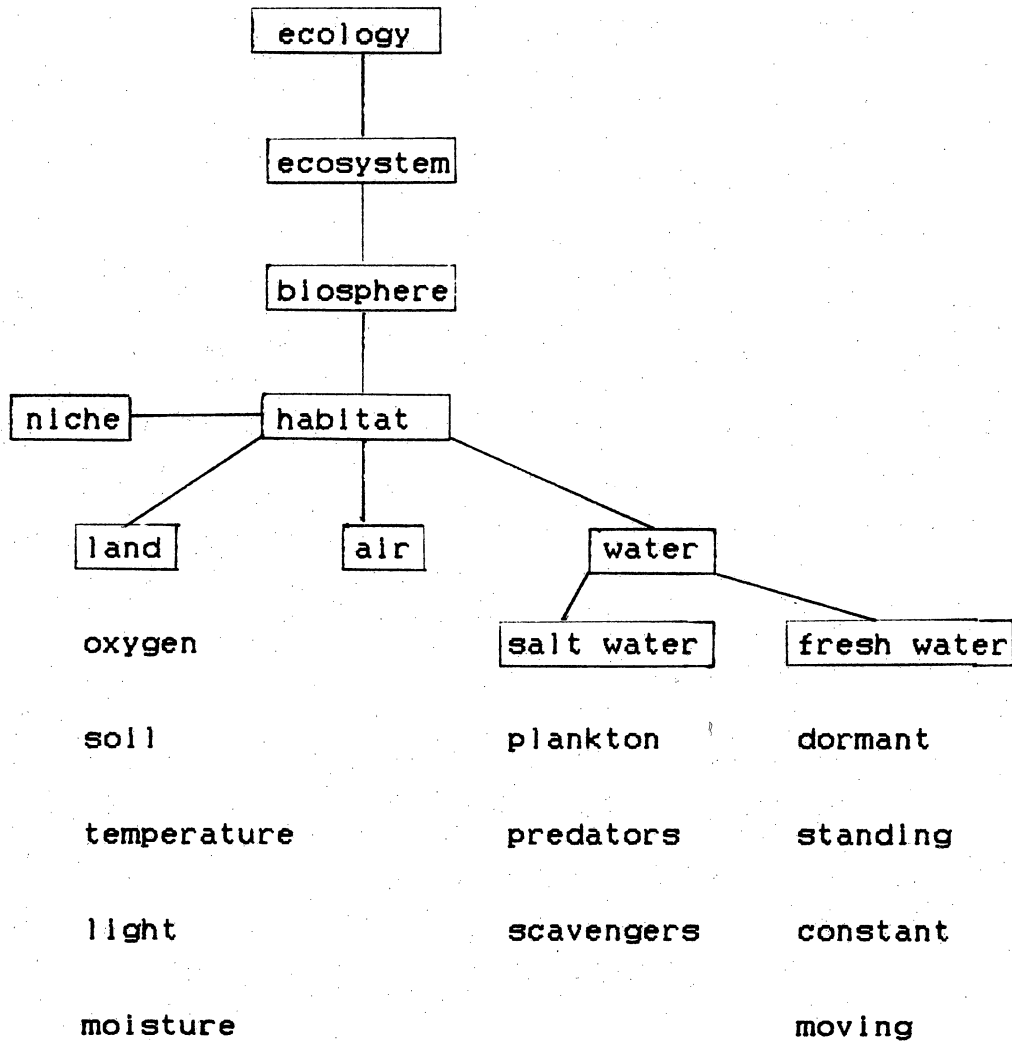
Concept Ladder

When a "teacher would like students to focus on a single word that represents the main concept of a selection rather than on a set of words," Blachowicz (1986, p. 646) recommends use of the Concept Ladder which requires an in-depth description of the target word. Students bring their prior knowledge to bear as they relate the new term to their own experiences. By completing the Concept Ladder before reading the students will discover what they do not know about the target word, and thus have their attention drawn to new information about the target word which is contained in the reading selection. Blachowicz's example describes the guitar (p. 648).

Kind of? <u>instrument</u>

Part of? <u>a band</u>

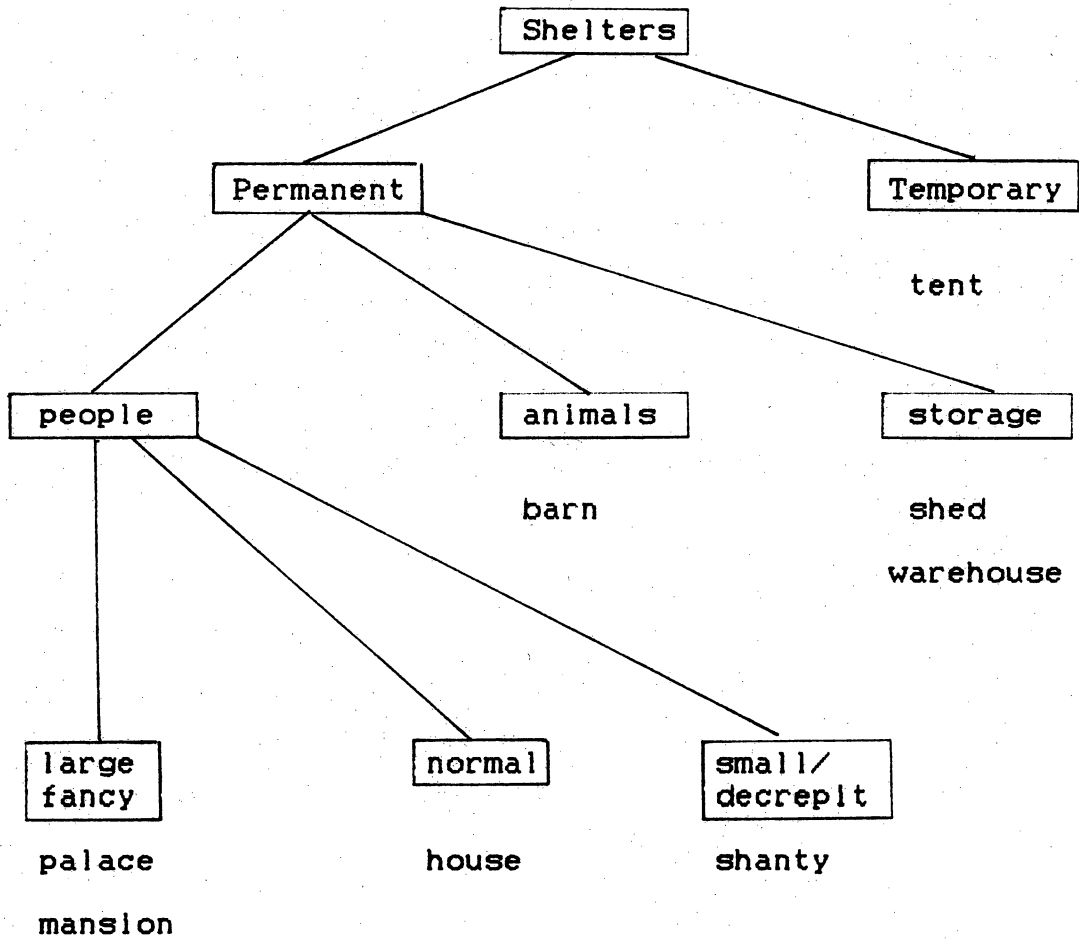Made of? <u>wood, metal, plastic</u>

GUITAR

Kinds of? <u>folk, classical, electric</u>

Part(s) of? <u>strings, ?</u>

Made (used) for? <u>making music</u>

Hierarchical Arrays

Nagy (1988) reported that a group of related terms which falls into a taxonomic relationship is well displayed in a Hierarchical Array. Although it is often used for terms in biology, it has other applications as well, as Nagy demonstrated in this Hierarchical Array (p. 30):

```
                          ┌──────────┐
                          │ Shelters │
                          └──────────┘
                         /            \
              ┌───────────┐          ┌───────────┐
              │ Permanent │          │ Temporary │
              └───────────┘          └───────────┘
             /      |      \
            /       |       _____      tent
           /        |                    \
    ┌────────┐  ┌─────────┐          ┌─────────┐
    │ people │  │ animals │          │ storage │
    └────────┘  └─────────┘          └─────────┘
     /  |  \
    /   |   \         barn              shed
   /    |    \
  /     |     \                      warehouse

┌───────┐  ┌────────┐  ┌──────────┐
│ large │  │ normal │  │ small/   │
│ fancy │  └────────┘  │ decrepit │
└───────┘              └──────────┘

 palace      house       shanty

 mansion
```

Verbal Seriation

(Linear Displays)

When the relationship among a group of words is
a matter of degree, as in a series of adjectives,
Koeller (1981) recommends use of the Verbal Seriation
display. The teacher should elicit a group of
adjectives from the class and list them on the board.
Next the class discusses the placement of the
adjectives along a line of polarity from the least to
the greatest, from the weakest to the strongest, from
the first to the last, from the oldest to the newest,
from the closest to the furthest, and so forth. In a
series of adjectives describing foods, a group of
sixth graders made this Verbal Seriation from the
most tempting to the least likely to be eaten:

scrumptious
|
delicious
|
tasty
|
appetizing
|
disgusting
|
rotten
|
yucky
|
gross

Classification Table

When students encounter a large number of names
of historical figures, place names, and new terms in
social studies texts, they can be confused not only
by the large number of new words, but by the
relationships among them. A Classification Table is
recommended by Simpson (1987) to organize the
information into categories which reveal the
relationships. The table below is based on a unit of
study of the American Colonial Era.

New England Colonies	Middle Colonies	Southern Colonies

Mayflower Compact	William Penn	indentured servants
New Amsterdam	slavery	House of Burgesses
Jamestown	Quakers	plantations
Lord Baltimore	apprentice	London Company
Middle Passage	Paul Revere	James Oglethorpe

Semantic Feature Analysis

Another way to reveal the relationships among
the words in a large related group of words is the
Semantic Feature Analysis. The target words are
listed along one side of the matrix and the related
features along the other. Each word is marked with a
"+" or "-" sign to show whether it has the feature or
not. The Semantic Feature Analysis chart below was
developed by a group of fourth grade students during
a study of the solar system.

	rocky	gaseous	moons	rings	atmosphere
Mercury	+	-	-	-	-
Venus	+	-	-	-	+
Earth	+	-	+	-	+
Mars	+	-	+	-	+
Jupiter	-	+	+	+	+
Saturn	-	+	+	+	+
Uranus	-	+	+	+	+
Neptune	-	+	+	+	+
Pluto	+	-	+	-	-

SAVOR

SAVOR, Subject Area Vocabulary Reinforcement, is similar to the Semantic Feature Analysis. It is designed to be completed by the students after reading a selection or completing a unit of study to reinforce vocabulary.

Stieglitz and Stieglitz (1981) advised teachers to help students learn the process with a familiar topic before applying it to a new area of study. For example, students could complete a chart about monsters based on their own knowledge (p. 47).

	Big	Hairy	Strong	Mean
King Kong	+	+	+	+
Hulk	−	+	+	−
Dracula	−	−	−	+
Cookie Monster	+	+	−	−
Godzilla	−	+	+	+

Once students understand the process, they are
ready to study a unit and create a chart based on the
unit content. A chart about growing fruits such as
the following could be part of a student's report for
science (p. 47):

	Grown in temperate climate	Tart tasting	Tree grown	Grows in bunch
Apple	+	+	+	-
Banana	-	-	+	+
Lemon	-	+	+	-
Grapes	+	+	-	+
Melons	+	-	-	-
Persimmon	-	-	+	-
Kumquat	-	+	+	-

Semantic Mapping

A Semantic Map is a free-form graphic organizer in which each student or group, or the class as a whole, creates the form depending on the nature of its contents. Semantic Maps can show relationships among parts of a story, chapter, or unit of study, sub-groups of words related to a general concept, or a variety of terms related in one way or another.

Stahl and Vancil (1986) reported that "the vocabulary discussion is the key element in the effectiveness of semantic mapping" (p. 62). In a comparison of treatment groups, those who experienced the in-depth discussion treatment retained the new vocabulary best. The active involvement of students in the discussion group caused deeper processing of the new information, and greater opportunities to relate the new words to background knowledge. (Also see the Discussion Methods section of this handbook.)

The following Semantic Map contains vocabulary terms studied in a unit about the California Gold Rush.

maps

gold nuggets

pyrite (Fool's gold)

placer gold

```
┌─────────────────┐
│  Finding Gold   │
└─────────────────┘
         │
┌─────────────────┐
│    Gold in      │
│   California    │
└─────────────────┘
```

```
┌─────────────────────┐              ┌─────────────────────┐
│ Going to California │              │  Mining for Gold    │
└─────────────────────┘              └─────────────────────┘
```

Forty-niners	panning
Isthmus of Panama	sluice box
overland	cradle
wagon train	gold field

Venn Diagram

The Venn Diagram is a means of demonstrating
which items from two larger groups can combine into a
common third group. The following Venn Diagram was
constructed by students who had read Chapter XIII in
Charlotte's Web by E. B. White. In the chapter
Templeton, the rat, goes to the Zuckermans' dump to
try to find a word for Charlotte to weave into her
web. In the Venn Diagram the students listed which
items would be found in the Zuckermans' dump in one
circle, and what their families send to the dump in
the second circle. In the overlapping portion of the
two circles are the common items which could be found
at the Zuckermans' dump and which are also discarded
by the students' families.

Venn Diagram for

Zuckermans' Dump & Our Trash

overalls	tin cans	broken dishes
spikes	dirty rags	soda cans
stoppers	metal	cereal boxes
broken hinges	bottles	used Kleenex
broken springs	batteries	used Pampers
dishmops	magazines	broken toys
leaky pails	junk	newspapers
ice-cream		plastic bottles
freezer crank		

Contextual Strategies

Introduction

A major goal of vocabulary instruction is to provide students with strategies to determine word meaning when they read independently. Nagy (1988) demonstrated that students learn a majority of new words from wide reading. (See Silent Sustained Reading in this handbook.)

Stahl (1983) described two types of knowledge students need to have about vocabulary words: definitional knowledge and contextual knowledge. He wrote, "Definitional knowledge can be defined as the knowledge of the relations of a word to other known words...Contextual knowledge is defined as the knowledge of a core concept and how that concept is realized in different contexts" (p. 4). Stahl advised teachers to use mixed methods of instruction so their students will have more strategies available to them as they read independently.

The use of contextual strategies enables students to independently discover word meaning in context through first determining the meaning of the surrounding context. The students learn to examine contexts through direct practice and through writing or generating contexts for known words. Students

apply critical thinking skills as they comprehend or create a text. Students access their existing schemata as they apply contextual strategies to new contexts.

Context Clues

Readers employ three cuing systems to get
meaning as they read. The grapho-phomenic, syntactic
and semantic systems each lend assistance to the
reader as s/he decodes the printed form, expects
language to follow familiar patterns, and understands
the words which make up the text. There are a number
of semantic clues which students can learn to observe
in reading. Crawley and Mountain (1988) described
eight such clues as follows (p. 75-76):

1. Direct definitions or explanations in the text
    Sauerkraut is a food made from fermented
    cabbage.

2. Explanation through example
    Mr. Jones has arthritis; the joints of his
    fingers are swollen and painful.

3. Words in a series clue
    There were kalanchoes, temple bells, geraniums,
    azaleas, and African violets on display.

4. Synonym or restatement clue
    The velocity, or speed, of the projectile was 15
    kilometers per minute.

5. Comparison or contrast clue

   Alva was very <u>diffident</u> while Bobby was an

   extrovert.

6. Familiar expressions or figures of speech

   There is no doubt that our guest was <u>somnolent</u>.

   Francis slept like a log.

7. Inference clue

   The monk looked as though he were going to

   <u>macerate</u> after his long period of excessive

   fasting.

8. Mood or tone clue

   The carnival noises filled the air with sounds

   of joy, happiness and excitement. The evening

   was <u>felicitous</u>.

   Teachers should provide their students with

practice on examples such as those given above. When

such clues are contained in a classroom reading

selection the teacher should call the students'

attention to them so the students will be prepared to

recognize such clues when they read independently.

Context Clues In Content Texts

Vacca (1981) discussed the use of context clues in content area texts. These books are often written and edited to contain such reader aids. He explained that students need to learn to use context clues because contextual analysis is "mostly a matter of inference. Inference requires readers to see an explicit or implicit relationship between the unfamiliar word and its context or to connect what they know already with the unknown term. It can't be assumed that students will perceive these relationships or make the connections on their own." (p. 71-72).

Since content area texts often contain context clues, teachers should assist students in locating and examining instances of their use in the classroom texts. The teacher's aim is to develop independent use of these strategies.

The context clues identified by Vacca are as follows (p. 73-74):

1. Definition   The author provides a simple definition in the text.

2. Linked synonyms   The author gives a synonym in
                      the text.

3. Direct   The author provides appositives,
   description   phrases, clauses with additional
                      information.

4. Contrast   The author contrasts a word with
                      its opposite.

5. Cause-Effect   The author gives a cause-effect
                      relationship which explains the
                      meaning of a word.

6. Mood and tone   The author's mood or tone gives
                      a clue to a word's meaning.

Computer Programs

Computer programs which simulate a situation require students to use new vocabulary in a realistic context. Such simulation programs are often in a game format which increase student interest greatly. A wide variety of such programs are available for most areas of the curriculum.

"Oregon Trail" by MECC simulates a trip by wagon train to Oregon. The player is responsible to purchase adequate supplies for the trip, to make decisions about routes to take and advice to follow. "Marketplace," also by MECC, teaches students about profits and losses in various businesses. "Mathshop" and "Mathshop, Jr." are available from Scholastic; in both versions math terms are visually represented as students enter various shops in a mall.

Programs available through CUE (Computer Using Educators) include "Annie's Mission" in which a young girl explores a California Mission. The program includes a dictionary which gives the English translations of Spanish names for the parts of the mission. "Trek of the Forty-Niners" takes the students through a gold rush town on their way to the gold fields. The students enter a saloon, livery

stables, general store, and other shops to gather

supplies and clues before they go to the gold fields.

Numerous other simulations are available in all

areas of the curricula.

Prediction Strategies

Readers make a series of predictions as they read based on their own background knowledge and the content of the text they are reading. Their predictions are constantly confirmed or revised during reading, and new predictions are made. This is part of the metacognitive nature of reading in which readers monitor their comprehension during reading. Students can learn several strategies to help them strengthen their use of predictions as they read.

Content area texts are purposely written with chapter headings and subheadings which in themselves provide an outline of the chapter's contents. Predictions can be made based on a preview of the chapter's contents. To demonstrate the process, the teacher prepares a structured overview or a hierarchical array (See the Graphic Organizers section of this handbook.) using the title, headings and subheadings from a chapter. Then s/he asks the students to predict what the chapter is about. This discussion helps students activate their background knowledge and make initial predictions about what

they will read. Students then read the chapter and
confirm or revise their predictions.

Multiple meaning words can be confusing to
students who do not know the meaning of a target word
in a specific context. Teachers should preview
reading assignments and select such words to alert
students to their presence in the selection. Ask
students to predict how the words could be used in
the passage and record their predictions. After
reading the selection students compare their
predictions with the meaning the words actually had
in the context of the selection. When students find
a discrepancy between their prediction and the actual
meaning in the text, their schema for the word is
restructured to accommodate the new knowledge.

Predict-o-gram

This strategy, developed by Blachowicz (1986),
is designed for use with narrative reading. It helps
students associate target vocabulary words with the
parts of a story where they would be used. The
teacher introduces the words and asks the students to
predict whether the words might refer to the action,
characters, or other components of the story. The
students list each word in each category that it
might reasonably be expected to appear, and discuss
the reasons for their predictions. After reading the
story the students re-examine their predictions. A
sample predict-o-gram based on "The Greyling" by
Yolen follows (p. 648):

The setting: rolling seas   townsfolk

The characters: fisherman   townsfolk

The goal or problem: rolling seas   stranded

The actions: stranded

The resolution: wall   grief

Other things: selchie

Story-Impressions

This method was developed by Denner (1986) to help students develop better reading comprehension of narrative form. First the teacher identifies the key words or phrases from the story which convey an impression of what occurs in the story. S/he lists them on the board with arrows showing the direction of the story. The students compose a group story using the impressions in the order listed, and the teacher records their story on an overhead or the board. After creating their story the students read the selection. A post-reading discussion is held to compare the actual story with the predicted story. The students compare how the story impressions were used in the author's story with how they were used in their story.

In a variation of this method, students can write individual stories from the list of words and phrases..

Art, Music & Drama Methods

Introduction

Students' vocabularies grow with each exposure to new terms and each encounter with familiar words in new contexts. They need a variety of language experiences to strengthen their associations with the vocabulary in the curriculum. The arts enable students to experience learning in different ways, whether visually, auditorially, or physically, than in traditional lessons. By integrating art, music and drama experiences with the curriculum teachers will enhance their students' vocabulary acquisition.

The activities contained in this section are designed to extend and enhance vocabulary instruction. The arts are inherently interesting and help motivate students' academic success.

Cartoons & Comics

Students can collect cartoons and comics that demonstrate interesting examples of language usage. Goldstein's (1986) students collected examples of puns, figurative language, and colloquial expressions. The students kept notebooks of their collections and challenged each other to find the most difficult words used in cartoons and comics. Students also contributed examples to the classroom bulletin board.

Demetrullas (1982) extended the use of comic strips by snipping out the dialog from the speech bubbles, duplicating the strips, and having the students write original dialogues using vocabulary words under study.

When students design and draw their own cartoons and comics they process language in another form of expression, strengthening their understanding of the concepts involved. Using a list of target words in a cartoon or comic provides the student with another opportunity to explore the relationships among and between the words.

Cartoons and comics lend themselves readily to expressing arithmetic problems. Students must visualize the meaning of such math vocabulary as

"greater than,", "perpendicular," or "similar" to
produce a meaningful drawing. By converting
arithmetic word problems into drawings students
combine the language of math with the language of
art.

Teachers can design cartoons and comics to help
make difficult concepts clear. The use of the
target vocabulary is demonstrated in a visual
context, giving students another avenue of learning
new terms and proper usage. The following example
comes from a fourth grade unit on dental hygiene.

TOMMY TOOTH WAS A HAPPY, HEALTHY TOOTH UNTIL...
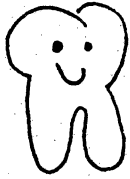
BACTERIA STUCK TOGETHER AND COVERED HIM WITH PLAQUE.
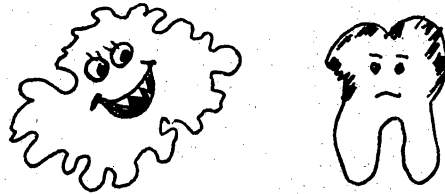
SUGAR FROM FOOD COMBINED WITH THE PLAQUE TO MAKE ACID.
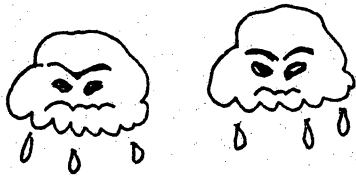
TOMMY GOT A CAVITY. HE FELT VERY BAD.

THE DENTIST FILLED TOMMY'S CAVITY AND TOLD HIM TO BRUSH AND FLOSS EVERY DAY.

Illustrating a Description

Long descriptive passages lend themselves to an
artistic interpretation. When a story or chapter
contains such a passage it may be effectively read
aloud by the teacher as students visualize the scene.
Having heard the passage, the students can then draw
what they have visualized. Chapter VI "Summer Days"
in Charlotte's Web by E. B. White is a descriptive
passage which suits this method well. Some of the
parts of the description which could be contained in
the students' illustrations are:

lilacs	apple blossoms	trout
bees	work horses	mowing machine
hay wagon	loft	barn
swamp	fields	sparrow
swallows	dandelions	green worm

Skits & Plays

Drama activities provide students with immediate language experiences using the four language modalities of listening, speaking, reading, and writing. Pre-written scripts are useful, but students gain greater command of language when they write their own skits and plays.

Very simple skits may require no written script. Reuse (1977) required her students to act out short skits using target vocabulary words in such a way that their meaning would be clear. "One girl CONJURED up out of the wastebasket a genie with a PROTUBERANT nose; another completely ENSCONCED her best friend in a roll of leftover Christmas wrap which she then EMBELLISHED with leftover bows" (p. 59).

Duffelmeyer and Duffelmeyer (1979) wrote, "One other advantage to using dramatizations is that they give opportunity for a discussion of speech levels and the use of words in specific social contexts, such as speech versus writing, or casual conversation versus formal situations" (p. 143). Classroom discussion plays a large part in direct experiences as students hear and see the teacher and fellow

students demonstrate proper usage of new vocabulary words. (See the Discussion Methods section of this handbook.)

Enacting arithmetic word problems is an effective way to illustrate the meaning of many confusing math terms. The abstract nature of mathematics makes careful study of its special vocabulary especially critical. As students dramatize such concepts as "diagonal," "surface area," or "difference," their schemata are expanded and their vocabulary connections strengthened.

Minor variations in meanings of closely related verbs can be demonstrated through pantomimes. Beck & McKeown (1983) related how students pantomimed the movement for words such as "galumph, trudge, or meander" (p. 623) when the teacher read aloud a story containing a variety of such verbs. This same approach can be used to demonstrate how characters speak in various ways such as declare, deny, exclaim, pronounce, murmur, confide, and remark.

Pantomimes are a kinesthestic means of learning new words which enables students to associate motor movement with word meaning. Casale and Manzo (1982) explained the process of the proprioceptive approach. First the teacher introduces and explains the meaning

of a new word. The students create pantomimes demonstrating the word's meaning, and everyone in the group acts out the pantomimes while the teacher repeats the word and its meaning or a known synonym. Then the students read the selection containing the target words. A discussion including reference to the use of the target words in the passage follows reading..

Drama can be incorporated in other ways as well. Students can retell a story through a skit, and a unit in social studies can be dramatized as students act out an historical event. The more encounters students have with the new vocabulary they meet, the stronger will be their associations with the new terms.

Readers Theatre

Readers Theatre is a form of drama which develops from a reading selection. After students have read and discussed a story, chapter or scene from a longer book, or an expository text, they can rewrite a scene in Readers Theatre script form. The process provides students with multiple encounters with the text as they read, re-read, discuss, write and re-write the text in script form, practice and finally perform the script.

To prepare a Readers Theatre script, first select a text composed primarily of dialogue. Assign lines of text to characters contained in or suggested by the text, and rewrite the prose into script form. In Readers Theatre the characters are seated in an appropriate arrangement on the stage, but there is little if any movement on the stage. The emphasis is on the interpretive reading of the script, not on dramatic actions.

Teachers should introduce Readers Theatre with a prepared script first, then teach the students how to adapt their own scripts from classroom reading materials. The basal reader stories are readily adapted to Readers Theatre scripts since they contain a high percentage of dialogue.

The following example of a Readers Theatre
script adapted from <u>Digging Up Dinosaurs</u> by Aliki
shows how a script can be created from an expository
text. The book is written throughout in the first
person as a girl tells about visiting a museum where
she sees dinosaur skeletons on display.   In this
Readers Theatre adaptation the dinosaurs are made to
speak for themselves as characters.

DIGGING UP DINOSAURS

By Aliki

Adapted for Readers Theatre by Patricia L. Paige

Readers: Narrator, Apatosaurus, Corythosaurus, Iguanodon, Triceratops, Scolosaurus, Tyrannosaurus Rex

Narrator: Have you ever seen dinosaur skeletons in a museum? I have. I visit them all the time. I went again yesterday. I saw Apatosaurus.

Apatosaurus: I weighed 70,000 pounds and ate plants. I was once known as Brontosaurus.

Narrator: I saw Corythosaurus.

Corythosaurus: I was a duck-billed plant eater. I had a crest on top of my head.

Narrator: I saw Iguanodon...

Iguanodon: I was a plant eater, too. I had horns that looked like thumbs.

Narrator: ...and Triceratops.

Triceratops: I had three horns on my head and I also ate plants.

Narrator: I like to say their names. Scolosaurus
was just where I had left it.

Scolosaurus: I was an armored dinosaur and a plant
eater.

Narrator: And Tyrannosaurus Rex looked as fierce as
ever. Tyrannosaurus used to scare me. I still can't
believe how big it is. Just its head is almost twice
my size.

Tyrannosaurus: I'm known as the king of the
dinosaurs because I was a big meat eater.

Narrator: I'm not afraid of dinosaurs anymore.
Sometimes I call them "you bag of bones" under my
breath. I can spend hours looking at them. I used
to wonder where they came from and how they got into
the museum. But now I know.

Scolosaurus: We lived millions of years ago. Some
of us were as small as birds,

Apatosaurus: ..but most were enormous.

Iguanodon: Some dinosaurs ate plants.

Tyrannosaurus: Some dinosaurs ate the meat of other
dinosaurs.

Corythosaurus: And some may have eaten the eggs of other dinosaurs.

Narrator: Dinosaurs lived almost everywhere on Earth.   They lived for millions of years.   Then they died out.   No one is sure why they became extinct, but they did.   There hasn't been a dinosaur around for 65 million years.

Triceratops: Until about 200 years ago, people did not know anything about dinosaurs.   Then people began finding things in rocks.

Apatosaurus: They found large footprints.

Scolosaurus: They found huge, mysterious bones and strange teeth.

Iguanodon: People were finding fossils.

Narrator: What are fossils?

Tyrannosaurus: Fossils are a kind of diary of the past.   They are the remains of plants and animals that died long ago.

Corythosaurus: Instead of rotting or crumbling away, the remains were preserved, and slowly turned to stone.

Apatosaurus: When I died 80 million years ago I sank into a river. After my flesh rotted away my skeleton was covered by mud. The mud and my skeleton turned to stone. I was hidden for millions of years. Then the earth changed and some stone broke away. About 100 years ago some people found me.

Iguanodon: Fossil hunters found more and more big bones in different parts of the world.

Triceratops: Scientists studied the fossils.

Apatosaurus: They said the bones and teeth and footprints all belonged to a group of giant reptiles that lived on Earth for millions of years.

Scolosaurus: We were named Dinosauria, or terrible lizards.

All Dinosaurs: That's us!

Narrator: I bet people crowded into museums to see you. But I know you didn't just get up and walk there!

Tyrannosaurus: We were dug out of the ground, slowly and patiently.

Iguanodon: This is how they find us. Fossil hunters search along riverbanks and in quarries. They climb up high cliffs and down into steep canyons.

Corythosaurus: They get lucky when someone spots a fossil bone poking through the rock.

Apatosaurus: They cover the site with a tent, and the work begins. I was buried so deep, the rock around me had to be drilled and blasted away.

Tyrannosaurus: Tons of rubble were carried away from me.

Iguanodon: Scientists chipped the rock close to my bones. They brushed away the grit. They were very careful.

Scolosaurus: As soon as my bones were uncovered, they were brushed with shellac. The shellac helped hold my bones together, so they wouldn't crumble. Then they put numbers on each bone.

Corythosaurus: That way, there can be no mix-up later when someone tries to put your skeleton together.

Iguanodon: A draftsman drew each of my bones in its exact position, and the photographer took pictures.

Apatosaurus: When your bones are ready to be moved, people wrap them carefully.

Scolosaurus: My small bones were wrapped in tissue paper and put into boxes or sacks.

Tyrannosaurus: My large bones were left half buried in the rock. They were covered with a plaster cast, just as a broken leg is. They were dug out later, in the museum.

Apatosaurus: All my bones were packed in straw, put in a crate, and taken to the museum.

Iguanodon: At the museum scientists unwrap all your bones.

Tyrannosaurus: They finish digging them out of the rock.

Corythosaurus: They study your bones to see how old you are and what kind of dinosaur you were.

Scolosaurus: They compared my bones to other dinosaurs and even to other kinds of animals. They figured out what size and shape I was.

Iguanodon: They figured out how I stood and walked, and what I ate.

Triceratops: If they find all your bones they can build your complete skeleton.

Apatosaurus: They made a frame shaped liked me to support my bones. Then they wired my bones together, one by one. My bones were held together with pieces of metal.

Scolosaurus: Some of my small bones were missing, so scientists made replacements with plastic or fiberglass. You can hardly tell my old bones from my new ones.

Tyrannosaurus: After many months the scientists were done. My skeleton looked just as it once did.

Narrator: Until recently, only a few museums had dinosaurs. Then scientists learned how to make copies of the skeletons.

Iguanodon: We're hard to copy. It takes a long time.

Apatosaurus: First they take your original skeleton apart, bone by bone.

Triceratops: Then they make a mold for each bone and make new pieces out of fiberglass.

Narrator: A fiberglass dinosaur is just as scary as the original, but much stronger and lighter. Now museums all over the world have dinosaur skeletons. And many people can spend hours looking at them, the way I do.

Music

Music has a natural appeal to everyone. Song lyrics provide teachers with an enjoyable way to present new vocabulary to their students. Teachers should select songs which suit a current unit of study to strengthen association of meaning.

Students can write original lyrics to familiar tunes using vocabulary from a unit of study. This example accompanies a fourth grade unit on geology.

Mary had a Little Rock

Mary had a little rock, little rock, little rock,
Mary had a little rock that she found in her yard.

She took it to her school one day, school one day,
    school one day,
She took it to her school one day, to share at show
    and tell.

She said that it was igneous, igneous, igneous,
She said that it was igneous, and John asked what
    that meant.

Mary told him igneous, igneous, igneous,
Mary told him igneous comes from a volcano.

Magma is a molten rock, molten rock, molten rock,

Magma is a molten rock deep below the ground.

When magma cools underground, underground,

    underground,

When magma cools underground, it hardens into

    granite.

When magma comes out volcanoes, volcanoes, volcanoes,

When magma comes out volcanoes, its name is changed

    to lava.

The lava runs across the land, across the land,

    across the land,

The lava runs across the land, and hardens as it

    cools.

Smooth lava rocks are obsidian, obsidian, obsidian,

Smooth lava rocks are obsidian, they look like

    blackened glass.

When lava cools up in the air, up in the air, up in

    the air,

When lava cools up in the air, it is so light it

    floats.

The floating rocks are called pumice, called pumice,

    called pumice,

The floating rocks are called pumice, they're full of
air bubbles.

That's all she told of igneous, igneous, igneous,
That's all she told of igneous, but there's even more
to know.

Figurative Language

Introduction

Figurative language is the language of poetry and literature, and it plays a part in everyday conversation as well. From the most obscure idiom to the most elegant metaphor to the silliest pun, figurative language enriches human expression. The methods in this section encourage the students to recognize these special usages and experiment with language as they develop voices of their own.

Students need direct instruction in the various forms of figurative language. Teachers should examine the classroom reading selections for instances of figurative language for study. Classroom libraries should contain riddle and joke books as well as poetry and quality literature. Students can contribute examples of figurative language they have seen in print or heard in the environment.

Figures of Speech

Figures of speech are special forms of language which students must learn to both recognize and use. Crawley and Mountain (1988) reported on research which revealed that students misunderstood figurative language used in their social studies textbook. "For example, the dark horse candidate, Warren Harding, was thought to be the first Black president of the United States" (p. 79). Students need to understand the nature of figurative language which is so common in literature, textbooks, and other daily contexts.

Teachers should point out examples of figures of speech contained in classroom texts and encourage students to contribute examples they find in their reading or environment. Songs and commercials are common sources of figurative language. Student contributions can be collected in a classroom book or used in a bulletin board display.

The most common figures of speech and examples given by Crawley and Mountain follow (p. 79-80):

1. A hyperbole is an exaggeration or overstatement.
    Example: I am so hungry I could eat a horse.

2. Irony is used to express the opposite of its
    literal meaning. It's humorous, light sarcasm.
    Example: Your performance was magnificent. You
    bombed out.

3. A metaphor is an analogy or comparison between
    two different things, but the words like and as
    are not used. Example: Phillip is a sly fox.

4. Onomatopoeia is the use of words whose sounds
    suggest their meaning or sense. Example: Hiss
    went the snake. Bang went the gun.

5. Oxymorons are words which are used together, to
    describe, but which are opposite in meaning.
    Example: Stephen Douglas was called a little
    giant.

6. Personification involves giving a thing or
    abstraction human qualities. Example: The fox
    spoke in a soft inviting manner.

7. A simile is a comparison between two different
    things using the word like or as. Example: A
    teacher with a hundred students is as busy a
    beaver.

Analogies

Analogies are a powerful means of comparing the relationship between two sets of concepts. They are usually based on similar, opposite, and part-whole relationships. First one must infer the relationship between two given terms, then identify the word which holds the same relationship to a third word.

Dupuis and Snyder (1983) advised the use of analogies to help students master the vocabulary and relationship between concepts in a unit of study. The following examples come from a study of environmental science (p. 304):

Niche : habitat as house : neighborhood.

Extreme : moderate as high : middle.

Plankton : protists as reptile : amphibian.

Sewage : water as smoke : air.

Ecosystem : forest as government : legislature.

Idioms

Idioms are special expressions which can not be defined literally. Students are exposed to these special sayings in everyday speech and television programs as well as classroom reading texts.

Students should be encouraged to collect examples of idioms from their reading and environment. An interesting way to make clear the special meanings of idioms is through illustration on a poster. The poster has two parts; the first shows a literal, and usually humorous, interpretation of the words, and the second depicts the actual meaning of the expression.

Some idioms that are easily illustrated are:

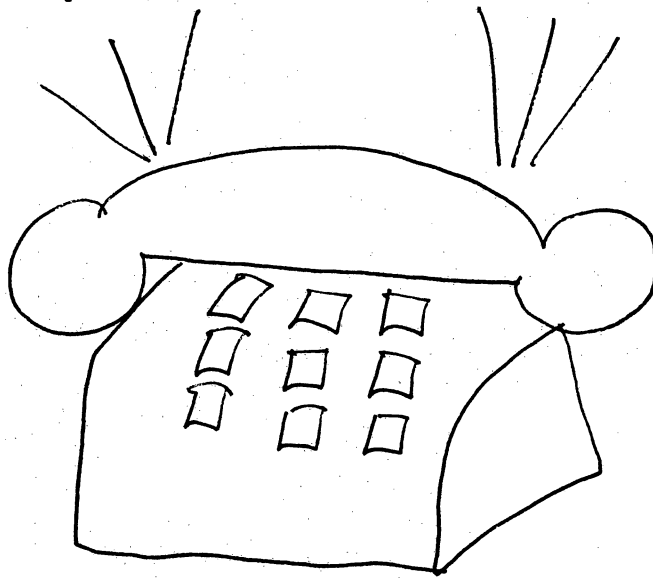caught a cold   a fork in the road

stole the show   on cloud nine

threw the book at him   night falls

eat your words   break the news

hit the sack   in hot water

A sample poster for an idiom follows:

Give me a ring.
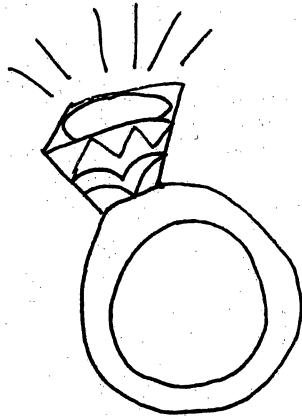
Call me on the phone.

Riddles and Puns

The delight children find in riddles and puns helps them learn to appreciate language used in these special ways. Sources for riddles include library books, children's weekly newspapers, children's pages in the daily newspaper, and children's magazines. Hold a week-long contest to collect the most humorous riddles.

Tyson and Mountain (1982) described five types of riddles (p. 171-172):

Homonym riddle:

What does a grizzly bear take on a trip?

Only the bare essentials.

Rhyming-words riddle:

What is a happy parrot?

A jolly polly.

Double-meaning riddle:

How are a king and a book alike?

They both have pages.

Figurative/literal riddle:

Why were the mice afraid to be out in the storm?

Because it was raining cats and dogs.

Intonation riddle:

If everyone in a country drove a pink car, what would the country be called?

A pink car nation.

Mike Thaler (1985, Scholastic), America's self proclaimed riddle king, has written a handbook for children, <u>Funny Side Up</u>, in which he describes the steps in creating a riddle. Thaler (1987, Mindscape) also wrote a computer program, "Riddle Magic," which children can use to write and print original riddles.

Writing Activities

Introduction

Vocabulary acquisition requires several steps.
New words are met through listening or reading, which
are receptive processes. Repeated encounters with
new terms in a variety of contexts enriches the
student's schemata for the concepts represented by
the words. Speaking and writing are expressive
processes in which the student creates a new context
for the words s/he has learned.

Simpson (1987) concluded from a review of the
literature that there is a hierarchy of four basic
operations students much accomplish as they learn new
vocabulary. Both oral and written expression
demonstrate a student's ability at each step.
Simpson's four processes are (p. 22):

1. Students should be able to recognize and
   generate the critical attributes, examples,
   and nonexamples of a concept.

2. Students should be able to sense and infer
   relationships between concepts and their own
   background information.

3. Students should be able to recognize and
   apply the concept to a variety of contexts.

4.   Students should be able to generate novel
     contexts for the targeted concept.

Teachers need to provide students with many
opportunities to apply their new vocabulary words in
self-generated contexts. When students use the words
under study in their oral and written expressions the
students process the language at a deeper cognitive
level which enhances retention.

The activities in this section are designed to
expand the students' experiences with new vocabulary
in written expression. In some cases students will
have the assistance of a structured form of writing,
and in other cases they will have more latitude for
self-expression. Both forms are important.

Sentence Rewriting

Sentence rewriting is a directed writing activity that can be done in several ways. In its simplest form the students rewrite the sentence using a known synonym or phrase for the target word/s. The students should then read and discuss their sentences to find any differences in meaning.

In a variation of this method Simpson (1987) suggested that the teacher write a sentence in which the meaning of a target word is described and then have the students rewrite the sentence using the new word appropriately. For "initiative" she gave her students the following sentence: "The young politician wanted the common people to have a voice in their government and to decide what bills could be introduced to the state legislature" (p. 25).

A third way to rewrite sentences is to include an appositive phrase defining a word in the sentence. Teachers need to point out examples of appositives which are frequently used in content area textbooks. (See Context Clues in Content Areas in the Contextual Strategies section of this handbook.)

Learning Logs

Learning Logs were created for use in content areas when students are required to master a large body of knowledge. The logs allow students to record what they have learned and examine their own learning process. These log entries can be adapted to emphasize vocabulary learned in a unit as a welcome change from the traditional vocabulary notebook full of stilted definitions.

At the beginning of a unit of study the teacher assigns a log to be maintained daily. Students record a summary of what they have learned using the new vocabulary terms appropriately. The students should explain in their daily entries how they arrived at conclusions, and what they have learned that revises their previous thinking on the topic. The should discuss their predictions for future learning, and ways they will apply what they have learned to current or new situations. Affective responses to their new knowledge should also be addressed.

If desired, the teacher can require that a portion of the daily entry focus especially on new words. Students can record the target words,

definitions based on class discussion, personal
associations, examples and nonexamples, and sample
sentences containing the target words. (See various
methods in the Association Methods section of this
handbook.)

Paired Word Sentence Generation

Students experience deeper processing of new learning when they are required to generate new contexts for what they have studied. Simpson (1987) devised a method which requires students to generate a sentence containing two new words. Thus students must demonstrate knowledge of each word as well as an understanding of the relationship between them. Simpson has used this method for evaluation after instruction.

Paired words is an effective approach when students are learning a group of related terms in a content area, but can be used effectively with literature selections as well. This method can be adapted by allowing students to select two words from the list of target words which they can use together in a sentence.

Vocabulary as a Writing Prompt

A competitive writing activity designed by Duin and Graves (1988) effectively encourages students to use new vocabulary words in their writing. Following instruction on a related group of words the students write essays on the topic of the unit of study. Students then read their stories aloud to a group of judges. One person keeps a count of the number of times each target word is used in the composition while other monitors record correct or incorrect usage of the target words. Based on criteria established by the group, winners are announced and awards presented.

There are many other ways to employ vocabulary in writing activities. Social studies units lend themselves to writing authentic newspaper articles about historical events, or diaries historical figures might have kept, or letters they might have sent. Students can write scripts for skits or plays which contain target words. Posting a list of words from the unit prominently helps students use them more frequently.

Students can write letters to characters in stories and books they read, or to the authors whose

works they enjoy. Creative writing and daily
journals are other vehicles for the use of new words.

RESOURCES

Anders, P. L. & Box, C. S. (1986). Semantic feature analysis: An interactive strategy for vocabulary development and text comprehension. Journal of Reading, 29, 610-616.

Beck, I. L. & McKeown, M. G. (1983). Learning words well - A program to enhance vocabulary and comprehension. The Reading Teacher, 36, 622-625.

Blachowicz, C. L. Z. (1986). Making connections: Alternatives to the vocabulary notebook. Journal of Reading, 29, 643-649.

Burmeister, L. E. (1978). Reading strategies for middle and secondary school teachers. (2nd ed.). Reading, MA: Addison-Wesley.

Burmeister, L. E. (1976). Vocabulary development in content areas through the use of morphemes. Journal of Reading, 19, 481-487.

Cangelosi, J. S. (1988). Language activities that prmote awareness of mathematics. Arithmetic Teacher, 36, 6-9.

Carr, E. M. (1985). The vocabulary overview guide: A metacognitive strategy to improve vocabulary comprehension and retention. Journal of Reading, 28, 684-689.

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

Casale, U. P. & Manzo, A. V. (1982). Differential effects of cognitive, affective, and proprioceptive instructional approaches on vocabulary acquisition. (Report No. CS-006-886). (ERIC Document Reproduction Service No. ED 222 879)

Crawley, S. J. & Mountain, L. H. (1988). Strategies for guiding content reading (pp. 51-98). Boston, MA: Allyn and Bacon, Inc.

Crist, B. I. (1975). One capsule a week - a painless remedy for vocabulary ills. _Journal of Reading, 19,_ 147-149.

Demetrullas, D. A. M. (1982). Gags, giggles, guffaws: Using cartoons in the classroom. _Journal of Reading, 26,_ 66-68.

Denner, P. R. (1986). Story-impressions: A prereading writing-activity. (Report No. CS-008-445). (ERIC Document Reproduction Service No. ED 269 743)

Duin, A. H. & Graves, M. F. (1987). Intensive vocabulary instruction as a prewriting technique. _Reading Research Quarterly, 22,_ 311-330.

Duin, A. H. & Graves, M. F. (1988). Teaching vocabulary as a writing prompt. _Journal of Reading, 32,_ 204-212.

Duffelmeyer, F. A. (1980). The influence of experience-based vocabulary instruction on learning word meanings. _Journal of Reading, 24,_ 35-40.

Duffelmeyes, F. A. & Duffelmeyer, B. B. (1979). Developing vocabulary through dramatization. _Journal of Reading, 23,_ 141-143.

Dupuis, M. M. & Snyder, S. L. (1983). Develop concepts through vocabulary: A strategy for reading specialists to use with content teachers. _Journal of Reading, 26,_ 297-305.

Echaore, S. D. & Roderman, W. H. (1985). _Math language._ Hayward, CA: Janus Books.

Goldstein, B. S. (1986). Looking at cartoons and comics in a new way. _Journal of Reading, 29,_ 657-661.

Grubaugh, S. (1985). Spoken words: Quality exposure to vocabulary concepts. _English Journal, 74,_ 64-67.

Grubaugh, S. & Molesworth, R. Jr. (1980). Teaching vocabulary and developing concepts in health. Journal of Reading, 23, 420-423.

Haggard, M. R. (1986). The vocabulary self-collection strategy: Using student interest and world knowledge to enhance vocabulary growth. Journal of Reading, 29, 634-642.

Horton, S. V., Lovitt, T. C., & Bergerud, D. (1990). The Effectiveness of graphic organizers for three classifications of secondary students in content area classes. Journal of Learning Disabilities, 23, 12-22.

Jenkins, J. R., Stein, M. L., & Wysocki, K. (1984). Learning vocabulary through reading. American Educational Research Journal, 21, 767-787.

Kaplan, E. M. & Tuchman, A. (1980). Vocabulary strategies belong in the hands of learners. Journal of Reading, 24, 32-34.

Kenyon, R. W. (1988). Writing is problem solving. (Report No. SE-050-083). Amherst, MA: Scientific Reasoning Research Institute. (ERIC Document Reproduction Service No. ED 300 247)

Koeller, S. (1981). Concept building through vocabulary development. Elementary School Journal, 82, 137-141.

Marzano, R. J. (1984). A cluster approach to vocabulary instruction: A new direction from the research literature. The Reading Teacher, 38, 168-173.

McGinley, W. J. & Denner, P. R. (1987). Story impressions: A prereading/writing activity. Journal of Reading, 31, 248-253.

Milligan, J. L. & Orlich, D. C. (1981). A linguistic approach to learning science vocabulary. Science Teacher, 48, 34-35.

Nagy, W. E., Anderson, R. C., & Herman, P. A. (1987). Learning word meanings from context during normal reading. American Educational Research Journal, 24, 237-270.

Nagy, W. E. (1988). Vocabulary instruction and reading comprehension. (Report No. CS-009-389). Cambridge, MA: Bolt, Beranek and Newman, Inc. (ERIC Document Reproduction Service No. ED 300 781).

Nelson-Herber, J. (1986). Expanding and refining vocabulary in content areas. Journal of Reading, 29, 626-653.

Pittelman, S. D. & Johnson, D. D. (1985). Project on the investigation of the effectiveness of vocabulary instruction. (Report No. CS 008-637). Washington, DC: National Institute of Education. (ERIC Document Reproduction Service No. ED 276 988)

Powell, W. R. (1986). Teaching vocabulary through opposition. Journal of Reading, 29, 617-621.

Readence, J. E. & Searfoss, L. W. (1980). Teaching strategies for vocabulary development. English Journal, 69, 43-46.

Reuse, R. B. (1977). All it takes is a little incentive. Media & Methods, 13, 59.

Richek, M. A. (1988). Relating vocabulary learning to world knowledge. Journal of Reading, 32, 262-267.

Schwartz, R. M. (1988). Learning to learn vocabulary in content area textbooks. Journal of Reading, 32, 108-117.

Schwartz, R. M. & Raphael, T. E. (1985). Concept of definition: A key to improving students' vocabulary. The Reading Teacher, 39, 198-205.

Simpson, M. L. (1987). Alternative formats for evaluating content area vocabulary understanding. _Journal of Reading_, _31_, 20-27.

Stahl, S. A. (1983). Vocabulary instruction and the nature of word meanings. (Report No. CS-007-479). Atlanta, GA: Paper presented at the Annual Meeting of the College Reading Association. (ERIC Document Reproduction Service No. ED 239 231).

Stahl, S. A. & Vancil, S. J. (1986). Discussion is what makes semantic maps work in vocabulary instruction. _The Reading Teacher_, _40_, 62-67.

Stieglitz, E. L. & Stieglitz, V. S. (1981). SAVOR the word to reinforce vocabulary in the content areas. _Journal of Reading_, _25_, 46-51.

Stoessiger, R. (1988). _Using language learning conditions in mathematics_. (Report No. CS 211-450). Rozelle, Australia: Primary English Teaching Association. (ERIC Document Reproduction Service No. ED 298 485)

Tsai, C. & Derry, S. J. (1987, February). _Application of schema theory to the instruction of arithmetic word problem solving skills_. Paper presented at the annual convention of the Association for Educational Communications and Technology, Atlanta, GA.

Tyson, E. S. & Mountain, L. (1982). A riddle or pun makes learning words fun. _The Reading Teacher_, _36_, 170-173.

Vacca, R. T. (1981). _Content area reading_ (pp. 57-87). Boston, MA: Little, Brown.

Vaughan, S., Crawley, S., & Mountain, L. (1979). A multiple-modality approach to word study: Vocabulary scavenger hunts. _The Reading Teacher_, _32_, 434-437.