Focuses On Literacy

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It is apparent that students' success will depend on utilizing a variety of reading comprehension strategies (e.g., finding paragraph details, summarizing, inferencing) and strength in vocabulary (e.g., contextual usage of words such as scythe, elude, plait, timothy, whetstone).

The primary task of the March 2005 Ohio Graduation Test in writing (Ohio Department of Education, 2005a), available at http://www.ode.state.oh.us/proficiency/ogt/PDFs/Spring_2005_Writing_Base_Test.pdf, appears to be application of the conventions of writing. In addition, students must write with elaboration on required topics. Two of the vocabulary words necessary to complete the writing tasks were donation and cloak.

Ohio's achievement testing is designed to correspond with curriculum content standards and to measure cumulative learning and overall school achievement. The English Language Arts Academic Content Standards (Joint Council of the State Board of Education and the Ohio Board of Regents, 2001) identify ten general areas of achievement which are further specified as numerous benchmarks and grade level indicators that serve as behavioral objectives pertinent to each area. For students to demonstrate achievement of all of the standards, benchmarks, and indicators entails their adept use of many complex processes, skills, and strategies that are central to attaining higher levels of literacy. The ten standards are:

1. Phonemic Awareness, Word Recognition, Fluency
2. Acquisition of Vocabulary
4. Reading Applications: Informational, Technical, and Persuasive Text
5. Reading Applications: Literary Text
6. Writing Process
7. Writing Applications
8. Writing Conventions
9. Research Standard

Ohio achievement tests require students to apply multiple skills simultaneously, for instance, comparing the meaning of two statements while applying the meaning of contextual vocabulary to the statements. Preparing students to apply and integrate the processes, strategies, and skills that are derived from the ten areas of achievement can be a challenge (Pershey, 2003a). Which areas of strategy instruction might have significant impact upon students' success on achievement testing? Might there be certain areas of instruction where SLPs could focus their efforts in order to attain impact on students' performance on mandated testing? How can SLPs determine which area of the curriculum might be the most important areas to align with the objectives written on students' Individualized Educational Plans?

I've conducted some research that may help answer these questions. A few years ago teachers from a district which had consistently poor performance on state mandated reading and writing testing asked me if I could help them determine whether certain language capabilities might predict or influence students' achievement test performance. The teachers' subjective impressions were that regular education students' substandard scores were likely due to an inadequate oral language basis that impacted negatively on reading and writing achievement test performance. Researchers Meisels (1989) and Popham (1999) suggested that language development could be a factor in achievement test performance; however, this appeared to be an
unexplored area of research. I found little data on how developmental language capabilities impact performance on tests of curriculum mastery. To explore this hypothesized connection, I administered 21 different sub-tests of oral and written language and reading skills to 263 mainstream fourth and sixth graders. The sub-tests probed skills in syntax and grammar, vocabulary, knowledge of the conventions of written language, reading comprehension at the word, sentence, and paragraph levels, and several other language-based skills. By conducting multiple regression analyses, I found that vocabulary capabilities accounted for roughly 46% of the variance in fourth graders' scores on Ohio's mandated reading tests. This means that 46% of the outcome on reading testing could be accounted for by vocabulary abilities; the other 54% would be attributable to other factors, but roughly half of student performance was predicated on oral vocabulary, reading vocabulary, and/or written language vocabulary. Reading ability itself was not more important than vocabulary for predicting outcomes on reading achievement tests.

For sixth graders, vocabulary accounted for approximately 30% of the variance in reading achievement test outcomes. For both grades, the ability to manipulate compositional elements (choosing and ordering words to form sentences, expressing multi-sentence ideas, choosing how to best convey a purpose, and writing mechanics) also had some predictive power. Reading comprehension testing was also predictive. But none of these areas of skill had as strong an influence on test performance as vocabulary knowledge. Students with higher vocabulary scores did well on mandated reading achievement testing and students with lower vocabulary scores performed more poorly on mandated reading achievement tests. In addition, although vocabulary abilities were a marginally significant predictor of variance in mandated writing test scores, vocabulary was still a stronger predictor than any of the other areas tested (Pershey, 2003b).

From my research I have cultivated the impression that vocabulary knowledge is central to successful achievement test performance. Other researchers (Beck, Perfetti, & McKeown, 1982; Blachowicz & Fisher, 2000; Johnson & Pearson, 1984; McKeown, Beck, Omanson & Perfetti, 1983; Moats, 1999; Nagy, 1988; Reutzel & Cooter, 2003; Stahl, 1983; Stahl, 1991; Stahl, 2003) described how vocabulary knowledge influences reading comprehension and, it would follow, performance on reading achievement tests. These authors provide a conceptualization of the components of effective vocabulary instruction. What remains, then, is to apply these effective instructional measures to the demands of the English Language Arts Academic Content Standards (Joint Council of the State Board of Education and the Ohio Board of Regents, 2001).

The English Language Arts Academic Content Standards (Joint Council of the State Board of Education and the Ohio Board of Regents, 2001) identify benchmarks for vocabulary acquisition for adolescent learners. By the end of grades four through seven, learners are expected to:

- Use context clues and text structures to determine the meaning of new vocabulary.
- Infer word meaning through identification and analysis of analogies and other word relationships.
- Apply knowledge of connotation and denotation to learn the meanings of words.
- Use knowledge of symbols, acronyms, word origins, and derivations to determine the meanings of unknown words.
- Use knowledge of roots and affixes to determine the meanings of complex words.
- Use multiple resources to enhance comprehension of vocabulary.

By the end of grades 8 through 10, additional objectives are added to the earlier bank of skills, including:

- Examine the relationships of analogical statements to infer word meanings.
- Recognize the importance and function of figurative language.
- Explain how different events have influenced and changed the English language.
- Apply knowledge of roots and affixes to determine the meanings of complex words and subject area vocabulary.

Learners who have completed grades 11 through 12 are expected to also add the following knowledge:

- Verify meanings of words by the author's use of definition, restate- ment, example, comparison, contrast, and cause and effect.
- Distinguish the relationship of word meanings between pairs of words encountered in analogical statements.
- Explain the influence of the English language on world literature, communications, and popular culture.

While these vocabulary usage skills and strategies are integral for comprehending text, it would be difficult and probably ineffective to try to teach these processes one by one. Nevertheless, it is clear that to comply with the curriculum standards we need to teach vocabulary strategies, not vocabulary words. We need to promote the acquisition and use of vocabulary to learn and to communicate. As Reutzel and Cooter (2003) explained, we use our vocabularies to express ideas and concepts. Our vocabularies grow almost daily as we learn new information and experience different events. In this way, as Hirsch (2003) also described, word knowledge and world knowledge provide students with the background they need to comprehend the ideas and concepts presented in texts. It has also been promoted that the best way to increase vocabulary is to read widely (Anderson, Hiebert, Scott, & Wilkinson, 1985). We have a cyclical effect - on the one hand, interesting learning experiences help
build the vocabulary students use to comprehend text, while on the other hand reading widely helps build the vocabulary that students need to benefit from their in school and out of school learning experiences (Reutzel & Cooter, 2003). A half century of research on effective vocabulary instruction has been driven by this reciprocal effect and has resulted in several guiding principles. I'd like to summarize these principles and provide some examples for helping adolescents become strategic vocabulary learners.

**Integration, Repetition, and Meaningful Use**

Successful vocabulary instruction is based on three key instructional practices - integration, repetition, and meaningful use (Nagy, 1988). Students need to work with words that they can integrate into their daily lives and school experiences.

The words we teach need to be repeatedly integrated with subject matter in meaningful ways. Repetition may involve direct instruction as well as indirect, incidental exposure to important words. Stahl (2003) wrote that it usually takes 12 encounters with a new word before the word is known to us and comprehended - until we know what the word means. Given fewer than 12 encounters, with little integration or meaningful use, words may remain in that gray area of "I've heard of it, but I don't know what it means," or "I recognize it in context - it has something to do with.....". Johnson (2001) suggested as many as 40 encounters per word may be necessary for mastery.

Which words are worthy of repeated exposure? We may think it would be the arcane words like scythe or cloak that would beleaguer the test taker. But the research on vocabulary instruction informs us that it's less important to comb our reading passages for unusual words that seldom appear. Instead, we need to help our readers know the strategy of examining unknown words for their potential meanings in context and immediately generating class and example relationships. They will be seeing scythe or cloak in relation to other words in a passage and they should ask themselves how they can search the passage for clues to meaning. In the case of scythe and cloak, the reader can ask what class of objects these might belong to - what kinds of things might these be? Given the general categories they fall under (tools and clothing) it's pretty easy to generate other examples in this category (other cutting tools are knives and axes; other warm garments are coats and sweaters). By thinking of a probable category and other examples in that category, properties of the concept can be brought to mind and

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**Figure 1: Semantic web, map, or cluster**

Directions: Place a new vocabulary word in the center circle. With your group, complete as much information in the other circles as you can. Be sure to consult a dictionary.

![Semantic Web Diagram](image-url)
the odd word can be comprehended in a general way.

Importantly, then, when selecting vocabulary words from text, we need to resist the temptation to select the unusual words that do not lend themselves to integration with classroom concepts, repetition, or meaningful use in favor of selecting key words that represent the text's major concepts. We can repeatedly use these words in meaningful practice activities. We can also select useful words - words that might not be essential to the particular text at hand but that will be useful for other daily living or school demands. We can also help students learn interesting words that appear in the text - fun, lively, imaginative words that will make the learner a more expressive speaker and writer. The adolescent will not be using scythe to make a point in a classroom discussion or journal entry, but he or she will become more expressive by using common words in imaginative ways. For example, the simple word dark can very meaningfully express the traits or motives of characters or can be used to describe periods in history.

We can also teach vocabulary-building base words and word parts - words that will help the learner understand what other words mean, e.g., temper will lead to learning temperamental, temperament, temper tantrum, temperate, temperate zone, temper, tempestuous. This type of word study builds in integration and repetition. Although vocabulary learning is basically a convergent task - we learn the meanings of words as they are commonly used - we can allow for some divergent activities to enhance meaningfulness and to alleviate the common problem of equating vocabulary instruction with memorization. An activity such as "Draw a picture of your temper." would be a divergent task that would allow for creative expression around learning the word temper.

**Breadth, Depth, and Connections**

Nagy (1988) noted that vocabulary instruction should build a breadth of word knowledge. Our students should know a lot of useful and relevant words. Instruction should also allow learners to know a fair number of words in depth and in detail. Third, learners should be able to use their vocabularies to make connections among words.

To help learners acquire vocabularies that are broad and deep with word meanings that are easily connected, Nagy (1988) suggested two main approaches for vocabulary study. One approach is to guide learners to understand unfamiliar words by analyzing the contexts for the use of words. This would mean analyzing how words are used interrelatedly in a text to help the author develop a concept. The meaning of an unknown word is supported by the meaning of other words that are known. The second approach would be to teach analysis of the structure of words. Words interrelate when they share roots, base words, affixes, and origins. I think that in contextual analysis we are asking learners to look outside of the word to know its meaning. In structural analysis we are looking inside the word to see what it means.

To make the most of contextual analysis we need to expose students to words systematically and in depth. Vocabulary words will coincide with a topic of study or a text. The vocabulary words should be learned in ways that reinforce the concepts and ideas under study. Words can be presented in relation to concept networks by using semantic webbing, mapping, or clustering (Figure 1), or by using semantic feature analysis, where words are used more than once across contexts, such as to describe different characters in a story. (Figure 2).

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**Figure 2: Semantic feature analysis**

<table>
<thead>
<tr>
<th>Feelings</th>
<th>Characters</th>
<th>Anna</th>
<th>Caleb</th>
<th>Papa</th>
<th>Sarah</th>
</tr>
</thead>
<tbody>
<tr>
<td>sad</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
</tr>
<tr>
<td>anxious</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
</tr>
<tr>
<td>anticipating</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>curious</td>
<td>+</td>
<td>+</td>
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<td>+</td>
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<tr>
<td>worried</td>
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<td>+</td>
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<tr>
<td>happy</td>
<td>+</td>
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<td>+</td>
<td>+</td>
<td>?</td>
</tr>
</tbody>
</table>
We can keep vocabulary posted on a word wall that relates to the topic of study. Cunningham (2000) described a word wall as simply a place on the wall where important, useful, and sometimes troublesome words are posted. The words are visible for repeated referencing. Structural analysis features may be emphasized, for example, by using two different colors of ink to differentiate root words from affixes. Or words can be sorted and categorized to aid understanding of their contextual interrelatedness. Posted words can be accompanied by concept cues, such as using the word in a sentence or in a quote from a text, by providing an illustration that depicts the word, or by including a contextually relevant definition. Word walls should be co-constructed by students and their teachers and SLPs. Learners should be encouraged to contribute to the word wall frequently.

Vocabulary study has its tools - dictionaries, thesauruses, and glossaries - but these should be used meaningfully and purposefully. Students usually don't need to know the definitions of words per se. Definitions tax memory and may be difficult to apply to context. Stahl (1986) found that vocabulary instruction that was based on definitional information failed to improve comprehension. Instead of definitions, we can use a think aloud procedure - "I know what this word means because......" (Baumann, Jones, & Seifert-Kessell, 1993; Oster, 2001). Students can use their own reasoning to create personal dictionaries or glossaries of important words.

**Timing Is Everything**

To connect vocabulary instruction with reading comprehension, SLPs may choose to emphasize vocabulary building activities that occur before students read their texts, during reading, or after reading text. There are advantages to timing vocabulary interventions at each stage of the reading process.

Pre-reading discussions can help students brainstorm the vocabulary that they already have on a topic. This discussion can help establish focus for the reading and can help students generate pre-reading questions and predictions based on their prior knowledge. Students can skim the text's organizational features, such as its headings and glosses, and identify known and unknown words. We can introduce challenging structural variants that will be encountered in the text, such as homonyms, heteronyms, abbreviations, and words borrowed from other languages.

During reading, key words can be recorded and, if necessary, grouped; for example, technical words, places, action words, or describers. Figures of speech can be analyzed. The text's signal words can be noted (on the other hand, finally, since, for example, in order that) and the purposes of these words can be explored (to signal sequence, to enumerate, to contrast ideas, and to otherwise order the ideas found in the text). During reading, students should be continually self-monitoring their understanding and describing aspects of the text that have made an impression on them. The use of text vocabulary is integral to this process. During reading, if necessary students can refer to dictionaries, glossaries, thesauruses, and other informational sources to mediate their understanding of text.

After reading, students can participate in responsive and reflective writing where they share their thoughts and opinions about the text. Students can use the vocabulary of text to clarify their comprehension of concepts, confirm their predictions, and form conclusions.

In summary, to help adolescent learners acquire the vocabulary skills and strategies that may help them successfully complete Ohio's mandated achievement tests in reading and writing, SLPs' interventions can focus on (1) integrating vocabulary words with meaningful learning experiences, (2) providing repeated exposure to key words, useful words, and vocabulary-building base words by using word walls and personal dictionaries or glossaries, (3) helping students use common words in a variety of ways, (4) guiding learners to use context cues to ascertain word meaning, (5) teaching analysis of the structure of words, (6) teaching words in conceptual networks, (7) teaching meaningful and purposeful use of dictionaries and other tools, and (8) studying words systematically and in depth before, during, and after reading activities.

**Additional Resources**

There are many print and web based resources to consult for information on vocabulary instruction for adolescent learners. A few useful examples follow:

- **Allen, J. (1999).** *Words, words, words: Teaching vocabulary in grades 4-12.* Portland, ME: Stenhouse.
- **Henry, M.K. (1990).** *WORDS: Integrated decoding and spelling instruction based on word origin and word structure.* Austin, TX: PRO-ED.
REFERENCES


