Sadlier School
PROFESSIONAL DEVELOPMENT SERIES

Vocabulary: The Foundation of Literacy, Volume I

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TABLE OF CONTENTS

Research has consistently found that vocabulary plays a fundamental role in the academic achievement of K–12 students in the United States[1]. The literature is also rich with recommendations for effective instruction of both general and academic vocabulary. Even so, policy makers and researchers alike continue to lament that the state of vocabulary instruction in schools remains inadequate in its frequency, consistency[2], quality, and intensity to ensure successful development of students' academic word knowledge[3].

This series of Professional Development eBooks, outlines what teachers need to understand about the definition and role of academic vocabulary in content-learning. It also explores a range of principles and strategies that teachers can use to design and implement effective vocabulary instruction.

THE DEFINITION, IMPORTANCE, AND DEVELOPMENT OF ACADEMIC VOCABULARY

The Definition of Academic Vocabulary

Academic language refers to the sentence structures (syntax) and vocabulary (both spoken and written) commonly used to learn across academic disciplines and within specific content areas[4]. Tiers describe how academic vocabulary differs from more common, everyday language[5].

- **Tier 1** vocabulary includes the words that represent every day, shared experiences and those we commonly use in informal conversation (e.g., "What did you do over the weekend?" "How much snow did you get?" "Do you think the book is worth reading?"). Tier 1 vocabulary also includes the words that children encounter in readers which are designed to support the development of their decoding, sight-reading, and fluency skills[6] (e.g., "The dog ran." "The children built a fort, and then it began to rain." "The boy and dog looked at each other.").

- **Tier 2** words[7] include the more general academic words used across the boundaries of varied academic disciplines and commonly found on academic word lists[8]. The meanings of Tier 2 words are either consistent across disciplines (e.g., "compare," "contrast," and "synthesize"), or they can vary by discipline (e.g., "point of view," "plot," "diagram," and "image")[9]. Further, a word's definition might vary given the part of speech it represents. (E.g., "Plot" can be a noun that describes how action develops in fiction, or it can be a verb that describes the act of graphing the location of points.)

- **Tier 3** words represent the specialized concepts (e.g., onomatopoeia, characterization, quatrain), language (e.g., the syntax and vocabulary of different literary periods and styles), and processes (e.g., of "close reading" or "critical analysis") particular to specific disciplines[10].

The Importance of Academic Vocabulary Learning

If vocabulary is at the "foundation of literacy,"[11] then academic vocabulary is at the heart of school learning. Vocabulary knowledge accounts for a significant amount of verbal ability; and verbal ability, in turn, is a strong predictor of K–12 academic achievement[12]. In addition, vocabulary knowledge explains 70–80% of reading comprehension[13]. Children's vocabulary knowledge influences their ability to recognize words and the ease and speed (or "fluency") with which they can "chunk" word parts into a whole word or read across meaning-bearing groups of words (e.g., prepositional phrases and dependent clauses)[14]; and vocabulary knowledge may explain differences in reading achievement between native and non-native English speakers[15].

The Development of Academic Vocabulary

Academic vocabulary begins to build upon the strength of children's oral language ability before they enter school. It grows in language-rich environments which challenge children's knowledge and experience through every day living as well as in print. Children who have the opportunity to listen to conversations about topics beyond their daily lives, listen to and discuss stories or informational texts that explore uncommon experiences or ideas, engage in word games (in oral and written language), go on outings beyond their immediate environments, and ask questions about words they do not know, are more likely to arrive at school with larger and deeper vocabulary knowledge than those who have not[16]. In turn, research has found that children's exposure to language-rich environments is related to their socioeconomic and welfare status; that is, children from professional families enter school knowing almost twice as many words as those from working class backgrounds and almost three-and-a-half times more words than those with welfare backgrounds[17].

The vocabulary knowledge children possess in kindergarten and grade 1 predicts the success they will have with reading comprehension in the middle and secondary grades[18]. As a result, children who begin their schooling with limited vocabulary knowledge are at a disadvantage which only grows over time[19] as the language of academic instruction and reading becomes more conceptual, technical, abstract, and specialized[20]. The relationship between word and text difficulty is reflected in readability measures, most of which include at least one measure of vocabulary challenge (e.g., a word's language of origin, conceptual load, abstraction, and morphemic complexity)[21].

INFORMAL VOCABULARY LEARNING

Informal (or incidental) vocabulary learning occurs within and outside school. Researchers agree that informal vocabulary learning flourishes in language and literacy-rich environments where students have multiple opportunities to encounter and use language that exceeds everyday use and exposure. Wide independent reading is one of the most commonly recommended informal learning strategies, although there is debate about its effect on the growth of academic vocabulary knowledge[22]. In addition, informal word-learning benefits from the same kinds of activities that promote pre-school children's vocabulary development (e.g., modeling the use of more sophisticated language, being exposed to a variety of genres, reading aloud and discussing texts that challenge listening comprehension, playing word games that involve reflection about the relation between the structure and meaning of words, having multiple opportunities for using new words in multiple contexts, and learning about specialized topics and concepts). Such activities also can simultaneously support the development of students' word consciousness—the ability to reflect, independently, on the relation between word structure and meaning[23].
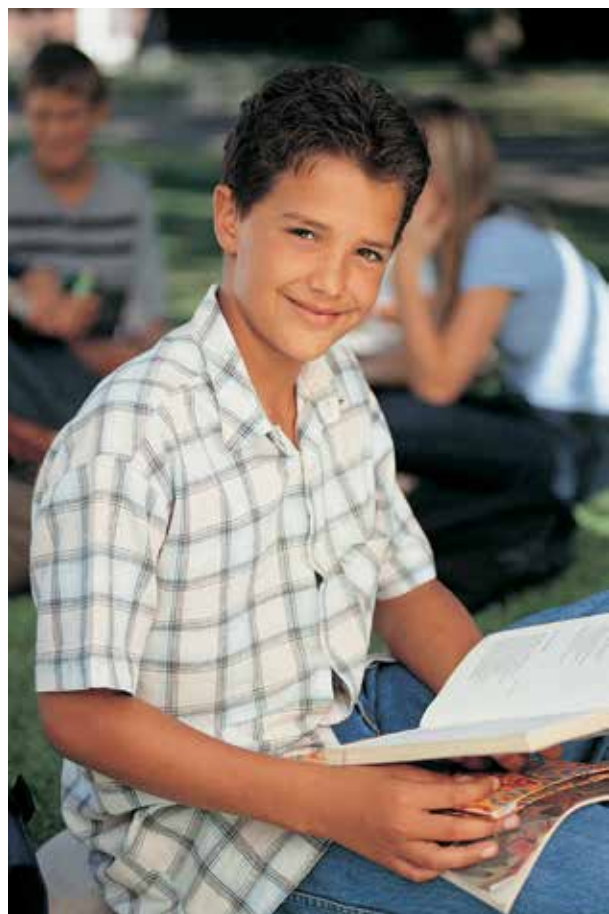
VOCABULARY LEARNING THROUGH DIRECT INSTRUCTION

While informal word learning can contribute to the development of students' academic word knowledge, research notes that informal word learning is insufficient for maximal vocabulary growth[24] especially for those children who arrive at school with weak vocabulary knowledge[25]. In addition to informal word learning, direct instruction plays a significant role in vocabulary growth[26], in reading comprehension[27], and in academic achievement—especially that of English language learners and struggling readers[28].

Effective academic word learning is a difficult, complex, and an on-going process[29]. Research is clear that no one method or strategy, especially when used in isolation, is sufficient for deep word learning. Even so, much of middle-school and high-school vocabulary instruction remains over-dependent on such isolated strategies as dictionary use (e.g., having students locate words, write and/or memorize the words' definitions and parts of speech, and then use the words in sentences), the use of context clues, and teachers' repeated explanations of definitions and isolated modeling of usage[30].

Direct vocabulary instruction is most effective when it acknowledges the complexity of word learning. Minimally, effective teachers:

- Offer students language and literacy rich classroom environments.

- Demonstrate enthusiasm for and exhibit a committed personal interest in word learning.

- Are explicitly purposeful and systematic in their selection of focal words and in the design of skill and strategy instruction.

- Treat vocabulary learning as an active, generative, integrative, and cognitive process[31].

- Provide students with multiple exposures to focal words in multiple contexts over an extended period of time—as well as multiple opportunities for students to use new vocabulary expressively and receptively, in oral as well as written language, and in novel contexts.

VOCABULARY LEARNING THROUGH DIRECT INSTRUCTION

From third grade on, students need to learn over 3,000 words annually[32]. It is essential to help students develop proficiency as independent word learners. Direct word-strategy instruction can support students' word learning dramatically[33]. Among the more effective word-learning strategies are:

- Analysis of word parts and structures

- Use of context clues

- Appropriate use of reference tools (for example, dictionaries and thesauruses)

- Development and articulation of personal approaches for building vocabulary knowledge

Students' proficiency with using context clues is related to vocabulary growth[34]. Both state standards and standardized tests require students to know how to use context to infer the meanings of unknown words.

To teach students how to use context clues, teachers should choose passages that embed unknown words in richly informative text. First, students might suggest synonyms for an unknown word using the context of the sentence in which the word appears as well as the longer passage. Students may need to reread the sentences that precede and follow the one in which the focal word appears in order to find a word or phrase that directly or indirectly informs the targeted word's meaning.

Students also could search the passage for synonyms, antonyms, definitions, explanations, comparisons or contrasts that provide clues to the word's meaning and then underline them. If those clues fail to provide enough information about the meaning of an unknown word, then students might try the process again, understanding that sometimes text does not provide sufficient clues to decipher an unknown word's meaning.

Learning to use context clues takes time, multiple opportunities for scaffolded and independent practice, carefully-paced mini-lessons, feedback, and review. Over time, students should also develop self-awareness about how and when to use context as part of their repertoire of strategies for independent word learning and vocabulary growth[35].

Because a key element of effective vocabulary instruction is for teachers to ensure that their students have multiple exposures to new vocabulary over time, it is important to plan opportunities to revisit words and to relate words and ideas to one another.[36] Researcher, Stahl (2005) reminded us that these opportunities, provided in a variety of contexts, should not be "mere repetition or drill of the word." Teachers can help students achieve multiple exposures to vocabulary that are significant, diverse, and engaging through various and interesting ways to ensure that they develop rich orthographic, phonological, and semantic knowledge of the word[37], such as:

- Lead discussions of student-friendly definitions.

- Provide sentence examples with contexts that make the meaning of each new vocabulary word transparent.

- Present audio and visual support with opportunities for students to hear and see a word, its syllables, sounds, definition, and its application.

- Deliver practice of vocabulary words within context-rich sentences.

- Use synonym and antonym activities to deepen understanding of word meanings and how they relate to other words.

- Allow students to apply the word using games and word puzzles.

- Have students use graphic organizers, such as concept circles, word webs, and word squares.

- Support experimentation and reward use of even partially known vocabulary words, particularly in student writing.

- Embed new vocabulary words into writing or discussion prompts, homework assignments, quizzes, and classroom instruction.

Model and engage students with a variety of word-learning strategies and explicitly teach students how to use those strategies independently.

CHOOSING VOCABULARY FOR DIRECT INSTRUCTION

In the earliest grades (through grades 2 or 3), the texts that children use to practice beginning reading skills (such as decoding, fluency, and automaticity) use Tier 1 words— those that are familiar and used in everyday language. As texts become more content-specific, the new words students encounter that are outside their everyday experience can grow as much as 3,000–4,000 per year and can grow to as much as 25,000 words by the end of high school[38]. Researchers uniformly agree, however, that it is better to teach fewer academic words well (e.g., around 400 words-per-year)[39] than more words in a cursory manner. Further, effective instruction should introduce no more than three-to-five words at a time, especially for those who are struggling readers or English language learners[40].

Vocabulary Workshop, Level Blue

Focal words should have high utility across academic disciplines.

When choosing words for direct vocabulary instruction, teachers should consider:

A WORD'S UTILITY. Focal words should have high utility across academic disciplines (e.g., Tier 2 words such as "contrast," "analyze," and "argue"— whose meanings can vary or not from one content-area to another) and within academic disciplines (e.g., Tier 3 words such as "alliteration" or "thematic statement"—words whose meanings are important to the specific concepts and processes of an academic subject)[41].

STUDENTS' FAMILIARITY WITH WORDS. Teachers should choose focal vocabulary based on an understanding of their students' familiarity with those words (e.g., from having no knowledge of a word, to knowing something about the context or use of a word, but not being able to use the word independently, to understanding a word's meaning and structure well enough to use it independently in their reading or writing)[42].

INSTRUCTIONAL PURPOSE AND POTENTIAL. Focal words should be critical to students' achievement of academic, instructional goals[43], their understanding of key concepts and processes within a discipline[44], and/or explicit purposes for vocabulary instruction[45].

THE USE OF TECHNOLOGY IN DIRECT INSTRUCTION

Even as research into the effectiveness of various kinds of online vocabulary instruction is ongoing[46], the literature agrees that technology, when used in conjunction with direct classroom instruction, affords students multiple, engaging opportunities to broaden their word consciousness, examine the structure and meaning of words, and practice applying new vocabulary and principles of vocabulary learning in novel contexts[47]. Not only does the web boast references such as online dictionaries and thesauruses, but a variety of sites offer word-games (using flashcards, crossword puzzles, word searches, "hangman," or sentence completions) that students can use to practice their word-learning skills.
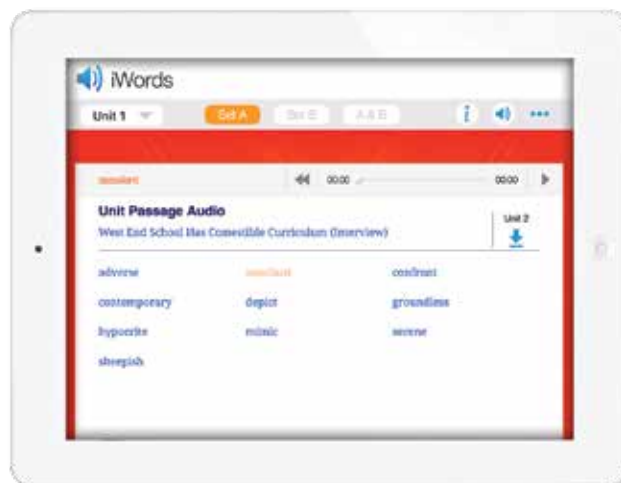
Vocabulary Workshop on
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VOCABULARY PRACTICE THROUGH EXPRESSIVE LANGUAGE

To ensure students acquire a deep understanding of the vocabulary they are learning, instruction should provide students with opportunities not only to read and hear focal words (receptively), but also apply them in their oral and written language (expressively). During class discussion, students can experiment using varied meanings of focal words as well as apply what they have learned about the words' pronunciation and syllabication. Teachers can use writing prompts to assess, formatively, how well students have synthesized the meaning of new conceptual vocabulary with previous knowledge. In addition, students can hone their reading comprehension and test-taking skills when responding in writing to prompts that are text-dependent.

Conclusion

It is clear the importance of academic vocabulary learning is at the heart of school learning. Besides being a predictor of student achievement, vocabulary can be the tool for closing the literacy gap. Building academic vocabulary through research-based direct instruction is most effective when teachers include the key elements of direct instruction and utilize technology and expressive language.

1. Flynt and Brozo, (2008); Blachowicz, Fisher, Ogle, and Watts-Taffe, (2006)

2. National Governors Association Center for Best Practices, Council of Chief State School Officers, (2010), Appendix A, 32

3. Nagy and Townsend, (2012), 92

4. cf., Nagy and Townsend, (2012)

5. Beck, McKeown, and Kucan, L., (2002)

6. Chall, Jacobs, and Baldwin, (1990)

7. Hiebert and Lubliner, (2008), 108

8. Coxhead, (2000)

9. Hiebert and Lubliner, (2008), 108

10. cf. Hiebert and Lubliner, (2008), 108

11. Johnson and Johnson, (2011)

12. Bromley, 2007; Graves, (2008), 57

13. Bromley, (2007), 528

14. Bromley, (2007); Chall and Jacobs, (2003); Curtis, (2009)

15. Blachowicz et al., (2006), 526

16. Hart and Risley, (2003), 9

17. Blachowicz et al., (2006); Chall and Jacobs, (2003); National Reading Technical Assistance Center, (2010)

18. Blachowicz et al., (2006), 526

19. Blachowicz et al., (2006), 526; Bromley, (2007), 528

20. Bravo and Cervetti, (2008); Chall and Jacobs, (2003)

21. Chall and Dale, (2000); Fry, (1990)

22. cf., Blachowicz et al., (2006), 527; National Institute of Child Health and Human Development, NIH, DHHS, (2000)

23. cf., Blachowicz & Fisher, (2008), 43-44; Blachowicz et al., (2006), 527

24. Nagy, (1988), 7

25. Hart and Risley, (2003), 9

26. Harmon, Wood, and Hedrick, (2006), 2; National Reading Technical Assistance Center, (2010), 1

27. Bromley, (2007), 533

28. Graves, (2008), 58; cf., Curtis and Longo, (2001)

29. Bromley, (2007)

30. Blachowicz et al., (2006), 524; Bromley, (2007), 536; Nagy, (1988), 4-8; National Governors Association Center for Best Practices, Council of Chief State School Officers, (2010), Appendix A, 32

31. Blachowicz et al., (2006); Bravo & Cervetti, (2008); Bromley, (2007); Curtis & Longo, (2001); Graves, (2008); Nagy, (1988)

32. Biemiller; Nagy & Anderson; Beck, McKeown & Kucan, (2002); Moats, (2003)

33. Nagy and Anderson, (1994); Sales & Graves, (2005); Hall, (2016); Duffy, (2002); Duffy et al., (1987); Duke & Pearson, (2002); Graves, Juel, & Graves, (2004); National Reading Panel, (2000); Pearson, Roehler, Dole, & Duffy; (1992), RAND Reading Study Group, (2002); Sweet & Snow, (2003)

34. Graves, (2008)

35. Graves, (2008)

36. Nagy, Herman, & Anderson, (1985); National Reading Panel, (2000); Biemiller, (2001); Hirsch, (2003); Stahl, (2004); Lawrence, (2009); Kuncan, Beck, and McKeown, (2010); Lawrence, White and Snow, (2010); Higgins, 2015)

37. Perfetti & Hart, (2002)

38. Graves, (2008), 58

39. Beck, McKeown, and Kucan, (2002); Bromley, (2007)

40. Bromley, (2007); Lawrence, Maher, & Snow, (2013); Snow, Lawrence, & White, (2009)

41. Beck, McKeown, & Kucan, (2002); Bravo and Cervetti, (2008); Curtis, (2009)

42. cf., Beck, McKeown, and Kucan, (2002), 11

43. cf., Bromley, (2007), 535

44. Bravo & Cervetti, (2008), 142

45. Blachowicz et al., 530; Bromley, (2007); Bravo & Cervetti, (2008), 142; Harmon, Wood, and Hedrick, (2008); Hiebert & Lubliner, (2008); Manzo and Manzo, (2008)

46. Blachowicz et al., (2006)

47. cf., Blachowicz et al., (2006), 533

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