

Thank you for taking the time to download our High School Vocabulary Digital Kit. Enclosed in this kit are the following materials:

- Best Practices in Vocabulary Instruction
- Study: Raising SAT and ACT Scores
- Vocabulary Graphic Organizers for Students
  - Concept Circle
  - Word Square
  - Word Web

We hope you save time with these vocabulary resources!

--Sadlier



### National Reading Panel's Process for Evaluation of Vocabulary Studies

To scientifically review the research literature on vocabulary and text comprehension, the National Reading Panel (NRP) carried out an extensive search for studies published between 1979 and 2000 (NRP Report, 2000). It seemed clear that vocabulary was an important component of the reading process, and that reading vocabulary is mapped onto a student's oral vocabulary much in the way that oral vocabulary is key in "learning to make the transition from oral to written forms" (NRP Report, 2000, p. 4-15). In analyzing the various studies, the Panel found that it was often difficult to separate vocabulary from comprehension processes, and that a similar problem existed in the area of vocabulary assessment. In the latter case, the type of vocabulary assessed (e.g., receptive vs. productive; oral vs. reading) and the need to sample from a much larger pool of vocabulary items further impeded the investigation. There were 50 studies identified in vocabulary instruction that met the Panel's criteria for further analysis, but none satisfied the NRP criteria for inclusion. Moreover, there were no studies that explicitly addressed the issue of measuring vocabulary. Due to the variety of variables and methods represented in the studies, the NRP data were presented in terms of trends and important findings.



### *Vocabulary Workshop,* ©2002 Ed., Features Review

The Sadlier-Oxford **Vocabulary Workshop** program (Levels A-H) is designed to provide systematic vocabulary development for students in grades 6-12+. Each level contains 15 units structured into five instructional components: definitions, completing the sentence, synonyms and antonyms, choosing the right word, and vocabulary in context. As illustrated below in Figure 1, these components and the subsequent follow-up activities are aligned with many of the *NRP*'s implications for best practices in vocabulary instruction. The following sections will provide a detailed analysis of that alignment.

#### Word Lists

Each unit introduces 20 new words to the students, for a total of 300 words per level. These words are chosen based on four major criteria: currency in and usefulness for present day oral and written communication; frequency on recognized vocabulary lists; applicability to standardized tests, especially the SAT I; and current grade placement research. In addition, the sources used to develop the lists of key words included current subject-area textbooks. This is directly supported by the findings of the NRP, in that they recommend, "Vocabulary words should be words that the learner will find useful in many contexts." They go on to state, "To that end, a large portion of vocabulary items should be derived from content learning materials" (NRP Report, 2000, p. 4-25).

#### Definitions

The first section of each unit introduces the 20 key words by providing definitions, parts of speech, pronunciation, synonyms, antonyms, and illustrative sentences. This section provides explicit vocabulary instruction, as defined in the *NRP* Report. Page 4—17 of the report states, "In explicit instruction, students are given definitions or other attributes of words to be learned." This section also provides repetition and multiple exposures, together with the use of context and active engagement, as recommended by the *NRP*. The students are given a brief definition followed by illustrative sentences

<i>Vocabulary Workshop</i> Features	Direct/Indirect Instruction	Repetition & Multiple Exposures	Context	Task Restructuring	Active Engagement	Computer Technology	Implicit Learning
Definitions	•	•	•		•	•	
Completing the Sentence	٠	•	•	•	٠		
Synonyms and Antonyms	٠	•	•	٠	•		
Choosing the Right Word	٠	•	•	•	٠		
Vocabulary in Context	•	•	•	•			
Follow-up activities: Essays/stories and writing sentences; use of literature and content area texts	•	•	•		•		•

#### Figure 1: NRP's Implications for Best Practices in Vocabulary Instruction Aligned with Sadlier-Oxford's Vocabulary Workshop, Grades 6 (Level A) — 12+ (Level H).

that require the students to slot in the key word. If the word can be used as more than one part of speech (e.g., noun and adjective), then both definitions are provided with illustrative sentences for each. This is followed by synonyms and antonyms for each part of speech, giving the students yet another exposure to the key word and its meaning. One emerging trend discovered by the *NRP* was "the possibility that the mix of definitional and contextual approaches worked better than either method alone" (*NRP* Report, 2000, p. 4—23). The Sadlier-Oxford **Vocabulary Workshop** program appears to align with that trend.

Finally, Levels A-F use technology in this section by providing an interactive audio pronunciation program in CD and cassette formats. The audio program allows students to hear the recommended pronunciation of each word at least six times, both alone and in context. In addition, they are provided with two opportunities to pronounce each word themselves. Pronunciations are followed by brief definitions based on those given in the student text. This audio program provides yet another avenue for repetition and multiple exposures to key vocabulary, together with the use of context and active engagement.

#### **Completing the Sentence**

The second section of each unit provides another exposure to the key vocabulary words by giving students the opportunity to use each word in context. Twenty sentences are given, and students must select the correct vocabulary word to complete each sentence and write the word in the space provided. Support for this exercise is provided in that the sentences are constructed to provide context clues, and only one of the new words fits in each sentence. In addition, this section also restructures the task of using the key words in context, as presented in the Definitions section. This time, students must choose the correct word on their own, thereby increasing the students' independent vocabulary acquisition. Restructuring the task in various



"For retention and usage, student manipulation of words in many contexts seems to be critical" (Blachowicz & Fisher, 2000, p. 513).

ways to facilitate vocabulary acquisition and comprehension was another emergent trend in the *NRP* Report database (*NRP* Report, 2000, p. 4—22). The Sadlier-Oxford **Vocabulary Workshop** program appears to align with this trend, as well.

#### Synonyms and Antonyms

In the third section of each unit, students are given phrases that include antonyms or synonyms as presented in the *Definitions* section. Students must choose the appropriate key word for each phrase. This section aligns with the *NRP* recommendations for best practices in that it restructures the task of learning synonyms and antonyms for each key word to reinforce its meaning. Under the *Definitions* section, students were asked to read and study the synonyms and antonyms to extend their understanding of meaning. In this section, students must choose the correct keyword to match the synonym or antonym provided, again increasing their level of independent vocabulary acquisition. This section provides repetition and multiple exposures to the key words in context, also implications for best practice as outlined in the *NRP* Report.

#### **Choosing the Right Word**

The fourth section of each unit presents sentences that are more mature linguistically and in subject matter than those found in section two, Completing the Sentence. In this new task, students must choose from two key words the one that best completes the sentence. This again represents task restructuring. Choosing the Right Word is a more difficult task than Completing the Sentence, due to the more mature sentence structure, the use of figurative or abstract meanings, and the fact that the form of speech of the key word may be changed from its original presentation. This section also provides repetition and multiple exposures to the key words in context, which are implications for best practices as outlined in the NRP Report.

#### **Vocabulary in Context**

The fifth section of each unit contains an activity that presents a reading passage to the students. This passage is designed to approximate a standardized-test format, and contains five or six of the key words studied in the unit. The words appear in boldface type in the reading passage. Students are instructed to read the passage, focusing on the meanings of the key words in the context of the reading selection. They then answer multiple-choice questions in which they must choose the correct meaning of each key word as it is presented in the reading passage. This activity follows the implications for best practices in vocabulary instruction as outlined in the NRP Report in that it once again provides repetition and multiple exposures to the key words in context. It also restructures the task of identifying the meanings of key words in context by presenting the words in a reading selection, as opposed to the disconnected sentences used in previous exercises.

#### **Follow-Up Activities**

In addition to the five-part structure of each unit, follow-up writing activities are suggested. A brief explanation is given to the teacher on having the students write essays, stories, or sentences with the key words. As these activities represent active engagement on the part of the student, they should be encouraged as a regular part of the Sadlier-Oxford **Vocabulary Workshop** program. Providing student examples for these activities would also be helpful, along with more suggestions for the teacher on how to make these activities a viable part of the Sadlier-Oxford **Vocabulary Workshop** lessons.

#### **Alternative Program Approaches**

Book lists of classic literature and contentarea nonfiction are also provided in the Teacher's Edition. These lists are crossreferenced to the corresponding levels of the Sadlier-Oxford **Vocabulary Workshop** program, and a brief explanation of how to use a literature-based approach and/or a content-area approach to instruction is provided. In addition, useful classroom techniques related to vocabulary instruction and grouping options are included, together with a general resource list of materials for the teacher.

A writing approach to using the program is also described in the Teacher's Edition. This approach emphasizes providing authentic contexts for students to apply their newly acquired vocabulary to "reallife" writing activities. These alternative approaches to using the program could serve to provide more active engagement with the vocabulary learning tasks, as recommended by the *NRP*.

### **Unit Reviews**

After every three units at each level there is an extensive review section. This section restructures many of the five activities reviewed above, and also provides new practice opportunities. The new opportunities are reviewed in the following sections.

#### Unit Reviews—Analogies

This section has been specially designed to provide preparation for the SAT and other standardized tests. A detailed explanation on how to help students work with and understand analogies is provided in the Teacher's Edition and in the Student Text. This section on working with analogies provides direct instruction in vocabulary development while giving the students another exposure to the key words in a rich and challenging context. As such, this section is in direct alignment with the implications of the *NRP* findings.



"...the assessment components of the Sadlier-Oxford Vocabulary Workshop are in direct alignment with the NRP guidelines for assessment and evaluation of vocabulary acquisition."

#### Unit Reviews-Word Families

This section of the *Review* is meant to extend the students' understanding of the key words by showing them that by learning one English word they often acquire understanding of a whole new family of related words. Practice in classifying words by part of speech is also provided in this section.

### <u>Unit Reviews—</u> Building With Classical Roots

This part of the Review is designed to introduce students to English words derived from common Latin and Greek roots. An explanation of using knowledge of word structure as a strategy for discovering the meanings of unknown words is presented in both the Teacher's Edition and the Student Text.

#### Unit Reviews-Writer's Challenge

This section of the Review provides an opportunity for students to apply to the writing process what they have learned about word meanings and usage. A helpful explanation of vocabulary choices in writing is included in both the Student Edition and the Teacher's Edition. The exercise itself provides a word bank of key words, and students are asked to read sentences, paying special attention to underlined words or phrases. They are then to choose a key word to replace the underlined words, and rewrite the revised sentence. This is an excellent activity to help students focus on a deeper understanding of the new vocabulary they have learned, in that they are paying attention to a writer's audience and purpose when making word choices.

### Review of Evaluation and Assessment Options

The NRP recommendations for assessment and evaluation of vocabulary acquisition stress that the way vocabulary is measured can have different effects on instruction. The NRP Report suggests that the following variables be taken into account when assessing vocabulary acquisition: 1) more than a single measure of vocabulary is critical for sound evaluation, as each way of measuring vocabulary produces different results; 2) the more closely the assessment matches the instructional context, the more appropriate the conclusions about instruction will be; 3) standardized tests provide a global measure of vocabulary and may be used to provide a baseline, but instruments that match the instruction will provide better information about the specific learning of the students related directly to that instruction.

<i>Vocabulary Workshop</i> Features	Multiple Methods of Assessment	Category of Vocabulary Measured Varies	Assessment Matches Instructional Content
Unit Reviews	•	•	•
Cumulative Reviews	•	٠	•
Final Mastery Test	•	•	•
Test Generator (CD-ROM for A–H)	•	٠	•
Supplementary Test Booklets (Alternative Assessment Modes: self-evaluation, teacher-student conferencing)	•	•	•

As shown in Figure 2, the assessment components of the Sadlier-Oxford Vocabulary Workshop program are in direct alignment with the NRP guidelines for assessment and evaluation of vocabulary acquisition. The Unit Reviews, Cumulative Reviews, and Final Mastery Tests provide multiple methods of assessment matched to instructional content. The CD-ROM Test **Generators** for Levels A-H provide an array of secure student tests that support the instruction given at those levels. Teachers may choose from a database of more than 3,000 questions per level to create customized assessments for their students. A wide assortment of question types to choose from enables teachers to follow the NRP guidelines for using multiple methods of assessment to measure the variety of vocabulary skills being taught.

Alternative assessment modes are also outlined in the Teacher's Edition of Sadlier-Oxford **Vocabulary Workshop**. Using teacher-student conferencing, student self-evaluation, teacher observation, peer evaluation, portfolio assessment, and multimodal forms of assessment are described as assessment options to monitor student understanding of vocabulary concepts. These options provide additional measures of vocabulary acquisition, as recommended by the NRP.

### Review of Research/Quotes to Support the Sadlier-Oxford *Vocabulary Workshop* Program

The following excerpts from the *NRP* studies provide direct support for

the features of the Sadlier-Oxford **Vocabulary Workshop** program:

### Support for the Five Instructional Components and Alternative Approaches

- · "Any attempt to understand the processes by which children's vocabularies grow must be based on a recognition of the complexity of word knowledge. Five aspects of this complexity that have long been recognized by vocabulary researchers are: (a) incrementallyknowing a word is a matter of degrees, not all-or-nothing; (b) multidimensionalityword knowledge consists of several qualitatively different types of knowledge; (c) polysemy-words often have multiple meanings; (d) interrelatedness-one's knowledge of any given word is not independent of one's knowledge of other words; and (e) heterogeneity-what it means to know a word differs substantially depending on the kind of word" (Nagy & Scott, 2000, p. 270).
- "The incremental nature of word learning has sometimes been expressed in terms of a linear scale with several points. Dale (1965) proposed four stages: (1) never saw it before; (2) heard it but doesn't know what it means; (3) recognizes it in context as having something to do with...; and (4) knows it well. A recent variation by Paribakht and Wesche (1997) is similar, but adds a fifth point: (5) I can use this word in a sentence" (Nagy & Scott, 2000, p. 270).

- "Word meanings are inherently flexible, and always nuanced in some way by the context in which they occur" (Nagy & Scott, 2000, p. 271).
- "If vocabulary instruction is to address this aspect of the complexity of word knowledge, students must not only be taught to choose effectively among the multiple meanings of a word offered in dictionaries, but to expect words to be used with novel shades of meaning" (Nagy & Scott, 2000, p. 271).
- "...the complexity of word knowledge further bolsters the argument that much of students' vocabulary knowledge must be gained by means other than explicit vocabulary instruction. In those cases when students are dependent on instruction to learn a word, if they are truly to gain ownership of that word, the instruction must provide multiple and varied encounters with that word" (Stahl & Fairbanks, 1986, in Nagy & Scott, 2000, p. 273).
- "...knowing a word cannot be identified with knowing a definition."
  "...word knowledge is primarily procedural rather than declarative, a matter of 'knowing how' rather than 'knowing that'" (Nagy & Scott, 2000, p. 273).
- "In most cases, knowing a word is more like knowing how to use a tool than it is like being able to state a fact. Word knowledge is applied knowledge" (Nagy & Scott, 2000, p. 273).

#### Specific Support for the Use of Analogies

 "In creating lasting links between words and meanings, besides many experiences and usages in differing situations, the creation of analogies seems to be an important tool" (Blachowicz & Fisher, 2000, p. 513).

### Specific Support for the Repetition & Multiple Exposures to Vocabulary

 "Repeated exposures to a word can also be an important component of word learning" (Blachowicz & Fisher, 2000, p. 508).

- "For retention and usage, student manipulation of words in many contexts seems to be critical" (Blachowicz & Fisher, 2000, p. 513).
- "A 'word-rich' environment supports general vocabulary development, but it may also provide a vehicle by which a student can build knowledge of a particular word through repeated exposure, and from multiple sources of information" (Blachowicz & Fisher, 2000, p. 508).

### Support for the Direct/Indirect Instructional Methods

- "The results suggest that preteaching vocabulary enhances children's understanding of ideas related to the instructed vocabulary regardless of level of importance. This investigation... provides support for preteaching vocabulary as a means of enhancing children's comprehension" (Wixson, 1986, p. 327).
- "The chief strength of definitions is that they provide explicit information about word meanings that is normally only implicit in context" (Nagy & Scott, 2000, p. 277).
- "One of the chief weaknesses of definitions is their failure to provide information about usage that is accessible to school children" (Nagy & Scott, 2000, p. 277).
- "Research has shown that the analysis of unfamiliar word forms contributes significantly to vocabulary expansion. Nagy and Anderson (1984) have estimated that an average of one to three morphologically related words can be derived from each of the words a child learns by him/herself" (Tomesen & Aarnoutse, 1998, p. 2 of 18—downloaded from the Internet).
- "Regardless of the format of the definition, and whether or not an illustrative context is provided, upper elementary grade students (and even older students in other studies) have serious difficulties

using the information definitions provide about the general syntactic and semantic properties of new words" (Scott & Nagy, 1997, p. 198).



"...vocabulary gains are greatest if the meanings of the words are discussed directly or otherwise processed deeply" (Dickinson & Smith, 1994, p. 107).

- "The results of this research indicate that integrating the information in a definition with a context sentence is a more difficult process than many parents, teachers, publishers, and researchers presume" (Scott & Nagy, 1997, p. 198).
- "Both instruction in individual word meanings and instruction in deriving meaning appear to hold potential for adding significantly to students' vocabulary. The individual meanings training and the deriving meaning training operate in different ways: The former adds specific items to a student's vocabulary store, whereas the latter enhances a student's ability to learn new words independently. These instructional strategies do not conflict, and in fact would

seem to be complementary. Although it appears that effective deriving meaning training could help students generate more word knowledge than could even a very efficient individual meanings strategy, deriving meaning instruction itself depends on students' existing vocabulary as the basis for deriving the meaning of new words. Combining both techniques may be more effective than relying exclusively on either strategy" (Jenkins, Matlock, & Slocum, 1989, p. 234).

- "In general, vocabulary gains are greatest if the meanings of the words are discussed directly or otherwise processed deeply" (Dickinson & Smith, 1994, p. 107).
- "A positive correlation exists between vocabulary knowledge and reading comprehension. Readers are best able to comprehend content for which they have labels and constructs stored in memory. Nagy (1988) perceives increasing vocabulary knowledge as a basic part of the education process and recommends that teachers should provide direct vocabulary instruction aimed at producing richer, deeper word knowledge for students" (Dana & Rodriguez, 1992, p. 78).
- "A consistent finding of reading research is that knowledge of word meanings is closely associated with the comprehension of connected discourse" (Carney, Anderson, Blackburn, & Blessing, 1984, p. 195).
- "...preteaching concept vocabulary has a significant facilitative effect on the acquisition and retention of social studies content. The results indicate that teaching students techniques that will help them acquire concept vocabulary is a profitable instructional undertaking" (Carney et al., 1984, p. 196).
- "...for vocabulary instruction to affect reading comprehension, the instructional strategies must go beyond establishing accurate responses to words. Instruction

may need to be aimed at an exploration of each word's meaning and related ideas to yield a deep knowledge of words" (Beck, Perfetti, & McKeown, 1982, p. 508).

"...a vocabulary training program can lead to gains in comprehension....Following instruction, subjects process individual word meanings more accurately and more rapidly. Improvements in comprehension follow, because construction of passage meaning, especially noncentral content, is made easier because individual word meanings are understood" (Beck, Perfetti, & McKeown, 1982, p. 520).

### Support for the Instruction in Using Context

- "...students learned the contextual meanings of words. This was especially important because so many of the words had multiple meanings, and simply looking them up in the dictionary did not provide students with the support they needed to understand the meanings of the words as they were used in the selections...This prevented the isolated learning of words and demonstrated to students how all word learning is contextualized" (Dole, Sloan, & Trathen, 1995, p. 459).
- "Students glean only partial knowledge from a single context, and the knowledge of a word grows incrementally as the word is encountered in different contexts" (Fukkink, Blok, & de Glopper, 2001, p. 477).
- "Because students encounter a large number of words, even a small improvement of the ability to infer the meaning of unknown words would result in a sizable number of words learned. Deriving word meaning from context has therefore 'a sound and persuasive rationale'...and many other authors have also acknowledged the potential value of instruction in deriving word meaning from context. Another argument for the importance of instruction in deriving word meanings is that, regardless of any impact on

incidental word learning, students need strategies for coping with unfamiliar words encountered while reading" (Fukkink & de Glopper, 1998, p. 451).



"...the knowledge of a word grows incrementally as the word is encountered in different contexts" (Fukkink, Blok, & de Glopper, 2001, p. 477).

 "Teaching students to use context clues can be effective if the instruction is explicit, well-scaffolded, and provides practice and feedback" (Blachowicz & Fisher, 2000, p. 506).

#### Support for the Active Engagement

• Students who were required to repeat word definitions (for science terms) modeled by their teacher when they erred performed better during instruction and retained more of what they had learned than did students who looked at vocabulary cards while the teacher modeled the definitions. "When used in conjunction with other empirically demonstrated elements of effective instruction...ASR (active student response) error correction may prove to be a significant component of 'best practice'" (Drevno, Kimball, Possi, Heward, Gardner, & Barbetta, 1994, p. 180).

"We see... active engagement as being important in relation to two aspects of vocabulary instruction: learning the meanings of specific words (where it is important to make connections between and among words and concepts) and learning strategies to become independent word learners" (Blachowicz & Fisher, 2000, p. 505).

### Support for the Interactive Audio Pronunciation Programs (Computer Technology)

- "Computer-mediated texts (texts displayed electronically under the immediate control of a computer) may represent a viable means for addressing the limitations inherent in determining the meanings of difficult words during reading because they provide new options for acquiring information from written texts" (Reinking & Rickman, 1990, pp. 396-397).
- "The ease with which readers of computermediated texts can access word meanings may affect their propensity to seek out the meanings of difficult words. Increased attention to difficult words during independent reading may lead to an increase in a reader's vocabulary knowledge, which may in turn increase the comprehension of texts" (Reinking & Rickman, p. 397).

### Support for the Implicit Learning Inherent in the Follow-Up Activities

"Incidental word learning, through listening or reading, will always be part of students' general vocabulary development. Although the extent and nature of this learning are debated, the fact that it occurs is undisputed and the importance of a word-rich environment has been often demonstrated" (Blachowicz & Fisher, 2000, p. 507). Review of Sadlier-Oxford Vocabulary Workshop ©2002, Grades 6 (Level A) – 12+ (Level H) Prepared by The Center for Reading Excellence, Johns Hopkins University

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# **An Analysis of SAT & ACT Scores** of Students Using the Sadlier Vocabulary Workshop Program

Conducted by:

**Questar Assessment, Inc.** Apple Valley, Minnesota

2010

Follow-up Effectiveness

Study

Vocabulary Workshop Student **Scores Exceed National Averages** 



## A Study of SAT and ACT Scores of Students Using the Sadlier *Vocabulary Workshop* Program

A Follow-up Study Conducted by: Questar Assessment, Inc. Apple Valley, Minnesota

### **Project Overview**

This study was conducted for William H. Sadlier, Inc., by an independent research organization, Questar Assessment, Inc. The data presented here were collected during the summer and fall of 2009. This study was in essence a follow-up to a 2004 study based on an earlier edition of Vocabulary Workshop (VW). Characteristics of the SAT and ACT assessments-the "outcome" measures used for this research—are not presented here, as these instruments are likely well-known to readers of this report. However, those seeking more information concerning these assessments should consult Web sites of the College Entrance Examination Board (www.collegeboard.com) for SAT background information and/or ACT, Inc. (www.act.org) for ACT descriptions.

SAT and ACT assessments were used for this study for two reasons. First, these tests are taken by a significant majority of U.S. precollege students. While many high schools administer commercial achievement tests and all states administer state-based achievement tests, there is no uniformity in the content or score scales of such assessments across states; this makes it impossible to combine data or to make facile comparisons across sites. Second, because the SAT and ACT tests assess valued educational outcomes, these instruments are typically used as a primary element determining a student's admission to institutions of higher education. Thus, since the SAT and ACT are both widely used and highly valued instruments for assessing the achievement of students completing their high school careers, they are the benchmark instruments to follow.

### **About the Study**

The project began with a list of 140 users of the VW program. This list, provided by the publisher, included both long-term users and schools that had only recently adopted the series. All of these schools were contacted by Questar by telephone, mail, and/or e-mail. The publisher made no direct contact with the schools regarding these research activities. Of the schools contacted, twenty-six indicated interest in assisting with the research. The most common reasons that schools chose not to participate were an unwillingness to share such data outside the district; limited availability of test data for the target population; or lack of VW use by all students in a given grade level, making segmenting results between "users" and "nonusers" impossible. Questar did not use any test data in which individual students were identified; all data were schoolwide or were score listings with student names removed.

After several stages of communication, eighteen schools provided the data summarized in this report. Other schools either were unable to provide sufficient data or could not adequately describe the samples of students who received VW instruction. The final research sample is composed of eighteen schools which were drawn from nine states—California, Florida, Georgia, Indiana, New Jersey, North

"Schools using Vocabulary Workshop show SAT and ACT achievement levels that are above those prior to instituting the program and superior to those of comparable schools not using these materials—a positive indicator of the success of the program in improving students' verbal skills." -Questar Assessment, Inc.

Carolina, Ohio, Pennsylvania, and Virginia. No claim is made as to the national representativeness of this sample of schools or students, although schools ranged from the very high-performing to those whose typical student achievement is significantly below national averages, and average test scores across all participating schools are fairly close to published national data (see below). Of the sample of schools, seventeen are public and one is nonpublic. Eight schools are located in the East, six in the Southeast, three in the Midwest, and one in the West. Five of the schools had used VW for a minimum of ten academic years, four had used the program for three to six years, and nine had adopted the program in the past two years. Thus, the sample includes both very long-time users of the program as well as schools implementing the series only recently. This mix of program-use represents the potential range of program implementation periods that most VW users or prospective users are likely to find most relevant.

The tables beginning on page 7 summarize the results obtained from each participating school. Summary information provided includes mean (arithmetic average) test scores and comparisons with statewide and/or national mean scores. For additional comparison purposes, also tabled on page 6 are recent annual national average scores for SAT and ACT by scale.

Readers should study the following results and draw conclusions based on those factors considered most pertinent—e.g., school type or size, particular assessment, years of VW use, or range of years for which data are provided. It is important to acknowledge that this project involved the collection and analysis of *already available* data from schools that currently use VW. The data are not outcomes derived from a controlled research activity. As such, the following summaries essentially represent eighteen "ministudies," each with unique student population characteristics, history of tests administered, "research design," and analyses. Each summarized data set provides one or more of three possible research design comparisons shedding light on VW effectiveness:

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• Verbal vs. Mathematics. In most cases, the "research design" contrast most relevant to determining the impact of VW on student achievement is that between the tests' Verbal/Critical Reading portion(s) and the corresponding Mathematics section. That is, if VW has an incremental impact on student achievement, one would predict that impact to be most evident in the Verbal test sections, those in which improved vocabulary knowledge and language skills would be most helpful. While these data are indirect evidence of "program effect," within the limitations of this research activity, they are taken as indicative of positive effects whenever the Verbal scores have gone up.

Specifically, with respect to the SAT and ACT instruments, scores on the SAT Critical Reading (Verbal prior to 2006) scale were considered the most relevant indicator of VW effectiveness, although the Writing scale is also pertinent. The ACT scales of greatest pertinence are those in Reading and English. Clearly, once again these expectations are not "pure" from a research standpoint. Not all of the major elements assessed on the SAT Critical Reading scale, for example, are equally impacted by a student's depth and breadth of vocabulary; similarly, vocabulary is inarguably a nontrivial element of scholastic achievement in quantitative content areas. However, from a relative perspective, it seems logical and reasonable to anticipate that a vocabulary-based instructional program will have the greatest potential effect on student performance in the Verbal areas of the assessments studied.

• Pre- and Postadoption of Vocabulary Workshop. The second relevant comparison provided in most of the data sets involves contrasting student test performance before the VW program was implemented with performance following implementation. While again, this comparison is not a "pure" one, insofar as the students involved in the analyses differ across years, such cross-sectional analysis is common in educational research. Further, since key achievement-dependent characteristics of successive classes of students within a specific school seldom change markedly from year to year, these comparisons are appropriate. At a minimum, such data are indicative of program effects.

Change Over Time. The final type of comparison data provided in most of the following analyses involves change in performance across years. Again, such data are cross-sectional rather than longitudinal, as largely distinct groups of students are represented in the year-to-year summaries. Nevertheless, it is logical to anticipate some amount of improvement in average test scores in the Verbal areas over time if the VW program is effective.

### **Study Findings**

For all of these pseudo-controlled research views, it is important to stress that the SAT and ACT are not direct indicators of Vocabulary Workshop's "program effectiveness." These assessments are far more global in nature and address a much broader set of student competencies than does VW, which is fundamentally a program that stresses vocabulary development. While positive change in the high-verbal areas of the tests would reasonably be anticipated if VW is an effective program, these tests—while valid and important gauges of student achievement—are only indirect indicators of the effectiveness of any instructional program. As such, they are somewhat insensitive gauges of the extent to which any instructional program leads to improved student achievement.

Given the above study limitations and caveats, taken holistically, the following sets of data provide very encouraging support for the effectiveness of the Vocabulary Workshop program as one component of the language-arts instructional program for secondary students. Users of Sadlier's VW program typically outperformed students in comparable schools nationally. More critically, VW-using schools generally show SAT and ACT achievement levels that are (a) above those that prevailed prior to instituting the program, (b) superior to those of comparable schools not using these materials, or (c) higher in Verbal areas of the assessments than in Mathematics portions. Each of these three possible outcomes provides a positive indicator of the success of the program in improving students' Verbal skills.

A secondary analysis of the data sets was conducted to supplement the school-level summaries. SAT results were combined across all sites providing 2007–08 data in order to assess an "overall" program effect. This is the latest school year for which significant data were available. This process yielded a total student sample size of 4,267 across the eighteen schools. It is important to stress that these analyses do not result from a controlled study in which students were all tested concurrently following a specified "treatment." Students across the SAT sites were juniors or seniors who had used VW for a period ranging from one to several years. Nevertheless, it seems appropriate to present these combined data and draw guarded inferences from the results. The mean scores across all schools are shown below.



VW users in this sample exceed the national average SAT scores by fifteen points in Critical Reading and by eight points in Writing, but by only two points in Mathematics. The performance of these several thousand students in the Verbal areas exceeded that in Mathematics by a statistically significant (p < .01) degree. While no claim of "national representativeness" of this sample is made, it is clear that students in these schools roughly mirror the national population of SAT test-takers. Given the size and breadth of this sample, this advantage of VW users in the Verbal areas of this important college-admission examination is impressive.

An additional secondary analysis involved collapsing data across the seven schools adopting VW in the 2007–08 school year—that is, new users of the program. SAT results for 2006–07 (the

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last preadoption year) were then compared with those from the initial year of program adoption. The mean SAT results for students in these schools (1,193 students in 2007–08 and 1,234 students in 2006–07) are shown below.



Once again, the summary data indicate positive VW effects. In the single year after program adoption, mean SAT Critical Reading scores improved by roughly 1/10 of a standard deviation, a statistically significant increase, while Mathematics means were

essentially unchanged. Similarly, the difference between mean Critical Reading and Mathematics scores shrunk during that same year. Note also that these are results from the first year of program implementation, so these students had the benefit of only a single year of VW use.

Not all of the following individual-school data sets evidence incrementally positive effects of VW on Verbal skills development. However, taken as a whole and combined with the summary analyses above, the data provide impressive indications of the success of VW in developing improved Verbal skills of secondary students, especially in schools implementing the program in several grade levels over an extended time period. In conclusion, use of Sadlier's *Vocabulary Workshop* series appears to provide a significant, positive impact on the assessed Writing and related Verbal achievement levels of college-bound high-school students across a broad range of educational settings.

		SAT	
Year	C.R./Verbal	Writing	Math
2009	501	493	515
2008	502	494	515
2007	502	494	515
2006	503	497	518
2005	508	*	520
2004	508	*	518
2003	507	*	519
2002	504	*	516
2001	505	*	514
2000	505	*	514

### **National Average SAT Scores by Year**

\*Writing skills not assessed prior to 2006

#### **National Average ACT Scores by Year**

			ACT		
Year	English	Math	Reading	Science	Composite
2009	20.6	21.0	21.4	20.9	21.1
2008	20.6	21.0	21.4	20.8	21.1
2007	20.7	21.0	21.5	21.0	21.2
2006	20.6	20.8	21.4	20.9	21.1
2005	20.4	20.7	21.3	20.9	20.9

### School #1

Type of School: Public, rural regional high school— Northeastern state Sample Sizes: 151–283 per year Year Vocabulary Workshop Adopted: 2005–06, used for all honors and college-track only Grades of Vocabulary Workshop Use: 8–12

**Test Results & Commentary:** 

### **SAT Data**

	Critic	al Reading/V	/erbal		Mathematics	5
	Sch.	State	Diff.	Sch.	State	Diff.
2007–08	534	495	+39	526	513	+13
2006–07	533	491	+42	534	509	+25
2005–06	529	494	+35	530	516	+14
2004–05	532	498	+34	522	517	+5

This school has average SAT scores above both state and national averages each year. It is clear from these data that, compared with schools across this state, scores in the Verbal area are relatively better than those in Mathematics in the most recent year of the study, a difference that may be attributable at least in part to VW use.





### School #2

Type of School: Public high school, suburban area just outside a major city—Northeastern state
Sample Sizes: 116–161 per year
Year Vocabulary Workshop Adopted: Before 2004
Grades of Vocabulary Workshop Use: 5–12

### **Test Results & Commentary:**

#### **SAT Data**

	C.R	./Verba	al	1	Writing		Mathematics		
	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.
2007–08	534	494	+40	521	483	+38	526	501	+25
2006-07	513	493	+20	506	482	+24	506	499	+7
2005–06	536	493	+43	510	483	+27	534	500	+34
2004–05	532	501	+31		*		532	503	+29
2003–04	528	501	+27		*		528	502	+26
2002-03	532	500	+32	*			540	502	+38
2001–02	528	498	+30		*		537	500	+37

\*Writing skills not assessed prior to 2006

This is a high-performing high school with district average SAT scores exceeding those statewide by roughly 1/4 to 1/3 of a standard deviation. The district has been a longtime user of VW in all grades from 5 through 12. While average SAT scores show typical variability from year to year, in general, Verbal performance has exceeded Mathematics performance, especially in the most-recent three years.

While trends are difficult to project, it also appears that (relative to state averages) average performance in the verbal—both Critical Reading and Writing—areas has improved in recent years, while mathematics scores have remained roughly the same. While certainly not a direct indicator of effectiveness, these data provide support for the contribution of the VW program to these students' high performances.



### School #3

Type of School: Public high school, large urban area—Southeastern state
Sample Sizes: 286–574 per year (SAT)
Year Vocabulary Workshop Adopted: Before 1995
Grades of Vocabulary Workshop Use: 9–12

### **Test Results and Commentary:**

### **ACT Data**

	English		Read	ding	Science		
	School	State	School	State	School	State	
2007-08	21.4	19.0	22.4	20.3	20.8	19.3	
2006-07	21.9	19.1	23.0	20.5	21.5	19.5	
2005-06	21.6	19.6	22.6	20.9	21.0	19.9	

### **PSAT Data** (2007–08)

	Critical Reading Gr. 10 Gr. 11		Wri	ting	Mathematics		
			Gr. 10	Gr. 11	Gr. 10	Gr. 11	
School	45.1	52.1	43.6	56.2	47.2	52.1	
County	39.5	48.0	38.3	46.8	43.9	50.4	
Sch. vs. Co.	+5.6	+4.1	+5.3	+9.4	+3.3	+1.7	

### SAT

#### Grade 12: VW School vs. "Matched Schools"

	<b>Critical Reading</b>		1	Writing	i i	Mathematics			
	2007	2006	2005	2007	2006	2005	2007	2006	2005
VW School	504	505	506	490	499	*	516	533	529
Control Sch. A	491	503	493	470	475	*	506	519	503
Control Sch. B	479	485	481	466	464	*	508	522	526

<sup>\*</sup>Writing skills not assessed prior to 2006

#### SAT

### Grade 11: VW School vs. "Matched Schools"

	Critical Reading			1	Writing	Mathematics			
	2007	2006	2005	2007	2006		2007	2006	2005
VW School	524	525	527	521	519		550	541	547
Control Sch. A	513	507	521	498	496		529	525	541
Control Sch. B	510	493	488	493	484		534	517	511

#### SAT

### Grade 11: VW School vs. State Average

	Verbal/Critica	al Reading	Writi	ng
	VW School	State	VW School	State
2009	521	497	515	480
2008	523	496	516	481
2007	524	497	521	497
2006	525	496	519	480
2005	527	498	*	*

\*Writing skills not assessed prior to 2006

Of thirty-three high schools in this county that test more than 100 students, this school ranked 3rd in Critical Reading and Writing and 5th in Math for 10th graders. It is clear that the school excels in most measures, and that the Verbal areas that would be most significantly impacted by VW use are especially high.

The school outperforms the state significantly in ACT English and Reading scores. The school also outperforms state averages in Science, but not as significantly.

On the PSAT, the school outperforms the county significantly in Critical Reading and Writing; it also excels in Math, though significantly less. The school's average PSAT scores are markedly above state and national averages.

The third and fourth tables to the left contrast SAT performance in the VW-using school with that of two county high schools with comparable demographic characteristics (free/reduced lunch, ethnic enrollments, and school size). It is clear that students in both grades in the VW-using school excel in SAT performance relative to those in comparable schools in the same district. While these data do not provide a "clean" analysis of VW effects, they are indicative of a positive effect of VW usage.

On the SAT, it is obvious that students in this school excel compared with students across the state. Over the past five years, students in the VW-using school have exceeded state averages in both Verbal/Critical Reading and in Writing: by roughly 24–29 points in Verbal and 34–39 points in Writing. This is a sizable and significant difference—on the order of 1/3 of a standard deviation.



### School #3 continued





### School #4

Type of School: Public high school—Northeastern state Sample Sizes: 333–406 per year Year Vocabulary Workshop Adopted: Before 1999 Grades of Vocabulary Workshop Program Use: 9–11

**Total Results & Commentary:** 

#### **SAT Data**

	Verbal/C.R.*			Ma	Mathematics			Writing		
	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.	
2006-07	485	493	-8	479	499	20	476	482	-6	
2005-06	488	493	-5	486	500	-14	478	483	-5	
2004-05	505	501	+4	507	503	+4		*		

\* Prior to 2005–06, SAT scores were reported as Verbal; these portions of the assessment are now termed Critical Reading. Because these two elements were scaled together, for purposes of this research, they are reported as being equivalent.

Although both Mathematics scores exceed those in Verbal statewide and nationally, this school reports higher average Verbal than Mathematics SAT scores. This provides an indication of students' superiority in the Verbal areas, and some support for the contribution of the *Vocabulary Workshop* program.

This school, a longtime user of VW, has average SAT scores slightly below state and national averages. Yet its scores in Critical Reading and Writing are nearer those larger-group averages than are the Mathematics scores.



### School #5

Type of School: Public high school, small city just outside a major urban area—Midwestern state
Sample Sizes: 128 (SAT); 140–168 (ACT)
Year Vocabulary Workshop Adopted: Before 1995
Grades of Vocabulary Workshop Use: 9–12

### **Test Results & Commentary:**

### SAT Data (2008 only)

	<b>Critical Reading</b>	Writing	Mathematics
School	550	548	578
State	534	521	544
Sch. vs. State	+16	+27	+34
Sch. vs. Nat'l	+48	+54	+63

#### **ACT Data**

	E	nglish		F	Reading		Mathematics			
	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.	
2007–08	23.4	21.1	+2.3	24.4	22.1	+2.3	25.0	21.5	+3.5	
2006-07	22.8	21.0	+1.8	23.3	22.0	+1.3	23.8	21.3	+2.5	
2005-06	22.8	20.8	+2.0	24.1	21.9	+2.2	23.1	21.3	+1.8	
2004-05	22.8	20.7	+2.1	24.7	21.9	+2.8	23.9	21.2	+2.7	
2003-04	22.6	20.7	+1.9	24.1	21.9	+2.2	23.5	21.1	+2.4	

Percentage of ACT test-takers who demonstrate readiness to do college work (per ACT guidelines):

English	85%
Algebra	71%
Social Studies	70%
Biology	52%

The SAT data clearly indicate that students in this high school significantly outperform their state and national peers in all areas. While the Mathematics results are especially noteworthy, the academic superiority of this school is clear in the Critical Reading and Writing areas as well. ACT results show a similar pattern, though these data are available for several years. ACT test-takers in this school typically outperformed their state peers by roughly 2 points on the ACT scales, a sizable advantage on this test. This advantage is similar across content areas; scores in English and Reading, areas most likely to be impacted by VW usage, are equally noteworthy.

ACT reports a College Readiness Benchmark for its assessments. This Benchmark is the minimum score needed on an ACT subject-area test to indicate a 50% chance of obtaining a B or higher or a 75% chance of obtaining a C or higher in a first-year, credit-bearing college course. On the basis of this highly regarded metric of performance, 85% of this school's ACT test-takers were "ready" to do collegelevel work in English. Corresponding percentages for other college courses as shown at left are also high, but not nearly at the same level as for English. These data provide impressive support for VW use throughout the high-school grades in this district.



### School #6

**Type of School:** Public high school, suburban area just outside two small cities—Southeastern state

Sample Sizes: 240–276 per year

Year *Vocabulary Workshop* Adopted: 2007–08 school year Grades of *Vocabulary Workshop* Use: 9–12

### **Test Results & Commentary:**

### **SAT Data**

	Critic	al Reading/\	/erbal		Mathematics	5
	Sch.	State	Diff.	Sch.	State	Diff.
2008-09	542	511	+31	535	512	+23
2007-08	544	511	+33	536	512	+24
2006-07	535	507	+28	530	509	+21
2005-06	530	509	+21	527	512	+15

VW was adopted in this school for the 2007–08 school year. The school is an above-average performer, both preand post-VW adoption, in all assessed SAT areas. However, the growth in Critical Reading since adoption is apparent, as is the relative strength in Critical Reading/Verbal over Mathematics. Further, the school's superior scores, when compared to the state average, have grown somewhat more pronounced since VW adoption, and this appears only in the Verbal area.



### School #7

**Type of School:** Public high school, rural county system— Southeastern state

Sample Sizes: 88-119 per year

Year Vocabulary Workshop Adopted: 2007–08 school year Grades of Vocabulary Workshop Use: all students in Grades 10–12

### **Test Results & Commentary:**

### **SAT Data**

	C.	R./Verb	al		Writing		Mathematics			
	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.	
2008-09	521	490	+31	509	479	+30	505	491	+14	
2007–08	504	491	+13	495	482	+13	507	493	+14	
2006-07	512	494	+18	501	483	+18	513	495	+18	
2005–06	503	491	+12	479	483	-4	512	494	+18	

This school adopted VW for the 2007–08 school year. During the first year of implementation, average SAT scores for students fell in all assessed areas compared with previous years' averages. Year-to-year changes are not unexpected, given the small test-taking samples in this school. Note however, the impressive improvement in average scores in the two Verbal (Critical Reading and Writing) areas in 2008–09. The improvement is significant with respect to our analysis of VW usage, as the same students' average SAT scores in Mathematics were essentially the same as in the prior year.



### School #8

**Type of School:** Public high school, rural area— Midwestern state

Sample Sizes: 61-68 per year

**Year Vocabulary Workshop Adopted:** Used by higherperforming classes since 2000; used by all students beginning in 2007–08

Grades of Vocabulary Workshop Use: 9–12

**Test Results & Commentary:** 

### **SAT Data**

	Critic	al Reading/\	/erbal	Mathematics				
	Sch.	State	Diff.	Sch.	State	Diff.		
2007-08	501	496	+5	494	508	-14		
2006–07	491	498	-7	502	507	-5		
2005–06	498	498	0	506	508	-2		
2004–05	496	504	-8	501	508	-7		

Students in this school have shown average SAT performance in both Verbal and Mathematics that is approximately average for the state during the years for which data were available.

Although the school has been a VW user for many years, beginning in 2007–08 the program was used by all students for the first time. In that school year, the district showed a significant change in average Critical Reading SAT scores—relative to both the state average and comparable performance in Mathematics. Given the small sample size and the limited time period, these data are only indicative. However, they provide some evidence of a positive effect of VW implementation schoolwide.



### School #9

**Type of School:** Small public high school, suburban area—Northeastern state

Sample Sizes: 73–86

Year *Vocabulary Workshop* Adopted: 2007–08 school year Grades of *Vocabulary Workshop* Use: 9–12

### **Test Results & Commentary:**

### SAT Data

	C.R./Verbal		Writing			Mathematics			Total			
	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.
2007-08	452	495	-43	444	496	-52	453	513	-60	1349	1504	-155
2006-07	438	495	-57	424	494	-70	456	510	-54	1318	1499	-181

Only two years of data were available for analysis—the years prior and subsequent to VW adoption in the school. During this limited period, the school's average SAT results show encouraging trends. While the averages in 2007–08 are still substantially below state and national means, the two verbal areas—Critical Reading and Writing—showed a sizable increase over the previous year, while Mathematics scores decreased, both on an absolute level and relative to the state average. While the changes are over a limited time period, they show promising results and provide indirect indication of an effect of VW usage in the school.



### School #10

Type of School: Public high school, suburban area— Southeastern state Sample Sizes: 199–310 per year Year Vocabulary Workshop Adopted: 2005–06 school year Grades of Vocabulary Workshop Use: 9–12

### **Test Results & Commentary:**

### **SAT Data**

	C.R./Verbal			Writing			Mathematics			C.R. + Math Subtotal		
	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.
2007–08	532	496	+36	507	478	+29	555	511	+44	1087	1007	+80
2006–07	520	495	+25	507	482	+25	549	509	+40	1069	1004	+65
2005–06	511	495	+16	505	485	+20	548	513	+35	1059	1008	+51
2004–05	524	499	+25		*		546	511	+35	1070	1010	+60
2003–04	512	499	+13		*		530	507	+23	1042	1006	+36

\*Writing skills not assessed prior to 2006

Average SAT performance of students in this school is above average relative to both state and national means. VW was adopted for schoolwide use in the 2005–06 school year. Since that time, average scores in each assessed area have increased on both an absolute and relative basis. While no causal claims can be made based on these data, they are indicative of a positive effect of VW implementation.

### School #11

Type of School: Public high school, suburban area— Northeastern state
Sample Sizes: 98–125
Year Vocabulary Workshop Adopted: 2007–08 school year
Grades of Vocabulary Workshop Use: 9–12

### **Test Results & Commentary:**

### **SAT Data**

	C.R./Verbal			Writing			Mathematics			Total		
	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.
2007-08	479	492	-13	476	494	-18	498	514	-16	1453	1500	-47
2006-07	461	491	-30	453	489	-36	486	509	-23	1400	1489	-89

This school adopted VW schoolwide during the 2007–08 school year. Only one year of data pre- and post-VW adoption were available for analysis. Despite the limitations in the available data, the single year of post-adoption results are encouraging. Changes to the Critical Reading and Writing average scores for the school relative to the state increased significantly, while Mathematics scores for both the school and the state remained roughly constant. Schoolwide average SAT scores in all assessed areas are still below-average, but they show positive change in the single year of VW use.





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### School #12

**Type of School:** Public high school, suburban area— Northeastern state

**Sample Sizes:** 392–416

Year Vocabulary Workshop Adopted: 2007–08 school year Grades of Vocabulary Workshop Use: 9–12

### **Test Results & Commentary:**

### **SAT Data**

	C.F				Writing			Mathematics			Total		
	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.	
2007-08	595	495	+100	597	496	+101	632	513	+119	1824	1504	+320	
2006-07	576	495	+81	575	494	+81	613	510	+103	1764	1499	+265	
2005-06	590	496	+94	590	496	+94	618	515	+103	1798	1507	+291	

This is a very high-performing high school, with high demographics. Its average SAT scores are clearly well aboveaverage relative to both state and national means. VW was adopted for use in Grades 9–12 only in 2007–08, so only a single year of postadoption SAT data is available at this time. Nonetheless, the results from this year provide encouraging indications of VW effectiveness. Despite large and generally constant sample sizes taking the assessments, the 2007–08 average scores increased by between 19 (Critical Reading and Mathematics) and 22 (Writing) points in this single year. The school's superiority in average scores over the state averages also increased significantly in each assessed area. Additional years of postadoption data will be required to form any long-term conclusions about program effectiveness, of course.







### School #13

**Type of School:** Public magnet school, large urban area—Southeastern state

Sample Size: 398

Year *Vocabulary Workshop* Adopted: 2007–08 school year Grades of *Vocabulary Workshop* Use: 9–12

**Test Results & Commentary:** 

### **SAT Data**

	Critical Reading			1	Writing		Ma	Mathematics			
	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.		
2007-08	463	496	-33	438	481	-43	446	497	-51		

This magnet school serves one of the nation's largest school districts. The school adopted VW in the 2007–08 school year, and SAT scores for only that year are currently available. For that single year, the Critical Reading average scores of students were somewhat higher than those in Mathematics (463 vs. 446). While school averages in all content areas were below state and national mean scores, the Critical Reading scores are relatively higher than those for Mathematics, with Writing falling between these two areas.

Given the limited data, few evaluative statements can be comfortably made; however, the single year of data provides some encouraging indications of program effectiveness in the Verbal areas.



### School #14

**Type of School:** Public high school, urban area in a very large county system—Southeastern state (Class of 2008 was the school's first graduating class)

**Sample Sizes:** 280–323

Year Vocabulary Workshop Adopted: 2007–08 school year Grades of Vocabulary Workshop Use: 9–12

### **Test Results & Commentary:**

### **SAT Data**

	Criti	cal Rea	ding		Writing	5	Mathematics			
	'07–08	'08–09	Change	'07–08	'08–09	Change	'07–08	'08–09	Change	
School	491	499	+8	480	492	+12	491	497	+6	
County	511	515	+4	499	500	+1	514	519	+5	
State	491	490	-1	482	479	-3	493	491	-2	
Nation	502	501	-1	494	493	-1	515	515	0	

This school adopted VW in the 2007–08 school year, the year in which the first students graduated from this new high school. As the tabled data above show, the school's overall performance is roughly average for the state and slightly below the county average across nearly 20 high schools. However, the tabled data also demonstrate that the school's average SAT performance increased across all three assessed areas in the two years for which data were available, but particularly in the language arts (Critical Reading and Writing) areas. Additional years of data will be needed to further evaluate the effect of VW usage in this school. However, for the limited time period of program implementation, the data are encouraging.



### School #15

**Type of School:** Public high school, urban area just outside a major city—Western state

Sample Sizes: 159–175 per year

Year *Vocabulary Workshop* Adopted: 2007–08 school year Grades of *Vocabulary Workshop* Use: 9–12

### **Test Results & Commentary:**

### **SAT Data**

	Critical Reading			Writing			Mathematics		
	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.
2007–08	490	494	-4	490	493	-3	489	513	-24
2006-07	507	493	+14	502	491	+11	520	513	+7
2005-06	500	495	+5	505	496	+9	522	516	+6

Differences between Subscores:

	C.R. vs. Mathematics	Writing vs. Mathematics
2007–08	+1	+1
2006-07	-13	-18
2005-06	-22	-17

Critical Reading and Mathematics scores in the 3 high schools in the same district:

	Critical Rdg.	Mathematics	C.R. vs. Math					
2007-08								
H.S. #1 (VW User)	490	489	+1					
H.S. #2 (nonuser)	547	560	-13					
H.S. #3 (nonuser)	541	574	-33					
2006-07								
H.S. #1 (nonuser)	507	520	-13					
H.S. #2 (nonuser)	538	549	-11					
H.S. #3 (nonuser)	515	556	-41					
2005-06								
H.S. #1 (nonuser)	500	522	-22					
H.S. #2 (nonuser)	539	551	-12					
H.S. #3	(No data available)							

This school has used VW only since the 2007–08 school year. While school averages were below that of the state during the implementation year, the scores in the verbal area (Critical Reading and Writing) were roughly 20 points closer to the state means than were the Mathematics averages. This relative performance contrasts with the much closer cross-content area comparisons with state averages for the preceding two years. Additional data following VW implementation will be required to explore these trends further.

The last table to the left summarizes scores for the three high schools in the district over multiple years. As the table shows, Mathematics average scores exceed those in Critical Reading in each comparison except for the scores of the VW-using school in the year following program adoption. In that year, verbal and quantitative average scores were essentially equal. Additional years of data will be required to evaluate whether this is a trend.



### School #16

Type of School: Public high school, suburban school district with two high schools—Northeastern state
Sample Sizes: VW School—188 to 211 per year; Control School—176 to 182 per year
Year Vocabulary Workshop Adopted: 2005–06 school year

Grades of Vocabulary Workshop Use: 9–12

### **Test Results & Commentary:**

#### **SAT Data**

	C.R./Verbal			Writing			Mathematics		
	VW	C*	State	VW	C	State	VW	C	State
2007–08	503	481	494	501	466	483	499	496	501
2006-07	491	470	493	505	460	482	497	490	499
2005-06	484	477	493	502	461	483	494	496	500
2004-05	476	477	501		**		495	492	503
2003-04	478	476	501		**		492	495	502

\* Control high school in the same district; non-VW school with similar demographics and "entry-level" SAT averages

\*\* Writing skills not assessed prior to 2006

This school adopted VW in the summer of 2005; the program is used by Grades 9–12 in all high school English classes. The school has shown steady and impressive improvement in Verbal SAT assessed areas. The control school (C), the other high school in the same district, does not use VW. The 2003–04 and 2004–05 SAT average scores of the control school are very similar to those of the VW-using school, yet the change in averages over the past years in the control school has been minor. Note also the growth in Critical Reading/Verbal scores in the VW-using school relative to the essentially flat Mathematics scores. For example, from 2004–05 to 2007–08, the Critical Reading means have increased by 27 points in the VW school, but by only 4 points in the non-VW school. In contrast, both schools have shown a 4-point increase in the average Mathematics scores during the same time period.





### School #17

Type of School: Public high school, suburban area just outside a major city—Northeastern state
Sample Sizes: 218–293 per year (SAT); 23–50 (ACT) per year
Year Vocabulary Workshop Adopted: Before 1995
Grades of Vocabulary Workshop Use: 9–12

### **Test Results & Commentary:**

### **SAT Data**

	C.R./Verbal		Writing			Mathematics			
	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.
2007–08	544	494	+50	536	483	+53	551	501	+50
2006-07	546	493	+53	542	482	+60	548	499	+49
2005-06	538	493	+45	527	483	+44	536	500	+36
2004-05	542	501	+41		*		546	503	+43
2003-04	535	501	+34		*		534	502	+32
2002-03	549	500	+49		*		543	502	+41
2001-02	548	498	+50		*		548	500	+48
2000-01	552	500	+52		*		547	499	+48

\*Writing skills not assessed prior to 2006

#### **ACT Data**

	English			Mathematics			Reading		
	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.
2007-08	23.6	21.8	+1.8	25.5	22.3	+3.2	24.1	22.5	+1.6
2006-07	23.3	21.5	+1.8	22.3	21.9	+0.4	24.2	22.4	+1.8
2005-06	21.3	21.3	0.0	22.7	21.7	+1.0	22.7	22.2	+0.5
2004-05	23.5	21.2	+2.3	23.8	21.5	+2.3	24.3	22.3	+2.0
2003-04	23.6	21.2	+2.4	24.2	21.5	+2.7	25.4	22.3	+3.1

Students in this school perform well above average on both the SAT and ACT, relative to both state and national averages. This high performance has been maintained over the several years for which data were available, with minimal consistent year-to-year change. ACT data are more variable across years due to the markedly smaller sample sizes tested.

High school students in this district demonstrate superior verbal and quantitative skills and have maintained that level of performance over many years. These data, taken as a whole, provide an indication of the effectiveness of the VW series as a component of the school's curriculum.



### School #18

Type of School: Public consolidated high school, suburban area about 20 miles from a city—Midwestern state
Sample Sizes: 459–524 per year
Year Vocabulary Workshop Adopted: Before 2000
Grades of Vocabulary Workshop Use: 9–12

**Test Results & Commentary:** 

### **SAT Data**

	C.R./Verbal			Writing			Mathematics		
	Sch.	State	Diff.	Sch.	State	Diff.	Sch.	State	Diff.
2007–08	497	496	+1	483	481	+2	513	508	+5
2006-07	495	498	-3	473	483	-10	503	507	-4
2005-06	499	498	+1		*		510	508	+2
2004–05	517	504	+13		*		514	508	+6
2003-04	509	502	+7		*		510	505	+5

\*Writing skills not assessed prior to 2006

The area served by this school has demographics that are slightly below average nationally. Typically, students show year-to-year SAT averages that are average to slightly above average for the state. Annual score changes within and across content areas are generally small. In the majority of the years shown, average performance of this school relative to the state is higher in Verbal than in Mathematics, which is counter to the national trend and indicates the advantage of using the VW program.





### Acknowledgments

Many of the schools that provided data for this study preferred to remain anonymous. We have respected the wishes of these schools and have identified by name below only those schools that agreed to be acknowledged. We are grateful for the cooperation of all eighteen schools, named or unnamed, that provided the data summarized in this study.

Easton Area High School (Pennsylvania) Stoneman Douglas High School (Broward County, Florida) Rocky River High School (Ohio) Delaware Valley Regional High School (New Jersey) Springfield Township High School (Pennsylvania) Great Valley High School (Malvern, Pennsylvania) Lake Central High School (Indiana) Whitko High School (Indiana) Lake Norman High School (Iredell County, North Carolina) Radford High School (Virginia)



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