Preface

Teachers across grade levels and content areas endeavor to help students access a wide and useful vocabulary. Vocabulary is key to understanding written and spoken language from preschool through adulthood. The relationship between vocabulary and understanding what we read is well established. A large vocabulary is a pleasure to use in our speaking and writing, and, as Steven Pinker (1994) notes, it uniquely equips human beings to exercise our remarkable ability "to shape events in each other's brains with exquisite precision" (p. 15). The more well developed a vocabulary a person has, the more easily the person can achieve that degree of precision in reading, writing, and speaking.

Students learn an impressive number of words during their school years. Researchers estimate that the typical high school graduate knows between 45,000 and 60,000 word forms, which translates to learning roughly 10 new words per day between the ages of 1 and 17 (Nagy & Anderson, 1984; Pinker, 1994). It might appear that, because students acquire vocabulary at this impressive rate, learning new words must be an easy task. But there are substantial differences in students' vocabulary knowledge, beginning in preschool, and, as with other reading skills, these early differences widen appreciably as they progress through school.

How can teachers help students who have reading and language difficulties acquire new vocabulary? In this book we set out to synthesize research on vocabulary learning and vocabulary instruction. We draw from research that has been conducted across several distinct disciplines, incorporating studies that teachers can use to make informed decisions about their pedagogical practices. We summarize research on vocabulary acquisition and instruction in order to offer teachers useful and practical guiding principles for vocabulary instruction in typical school settings, including instruction for students who need more intensive, nuanced, and responsive vocabulary approaches. The nature of where this information resides and how the research was conducted has led to three important features of our approach.

First, our synthesis reflects an awareness of the diversity of discipline perspectives on vocabulary instruction. There is often limited interchange of research and practice across these disciplines. For example, research in the field of linguistics has informed our understanding of how children learn the meanings of words. Cognitive psychologists have tested theories of word learning, often in laboratory and small-scale studies. Another branch of linguistics has generated research on the features of words that influence learning and instruction. More recent efficacy studies utilizing randomized field trials add information on teacher and classroom influences on vocabulary learning. In writing this book, we drew from all of these sources. The challenge in synthesizing the research from these diverse disciplines is that the principles and practices do not necessarily correspond among them. For example, linguists use relatively precise statistical analyses of the frequency and coverage (i.e., dispersion or distribution) of words in oral and written language to identify important words to consider teaching, while educational researchers use a more conceptual approach to identify these words. Nonetheless, we try to honor these various disciplinary perspectives in our presentation of how vocabulary is learned and how it can best be taught.

Second, we intended our research synthesis to suggest instructional approaches helpful in typical school settings, including those using multi-tiered or response-to-intervention (RTI) models, specific frameworks for assessment and intervention that have been fostered by the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA; Public Law 108-446). Most RTI models feature three tiers of reading intervention and use a problem-solving approach for prevention and intervention. Typically, Tier 1 is primary intervention, the core curriculum provided to all students in the classroom. Tier 2, or secondary, intervention is often provided to students identified through screening or progress monitoring who are not responding adequately to the core curriculum and therefore need supplemental interventions. Tier 3, or tertiary, intervention is reserved for those students who fail to respond to the primary or secondary intervention. However, most of the interventions we describe in this volume were not conducted within RTI models, and most were not recommended for specific multi-tiered applications. Thoroughgoing research on vocabulary instruction within the RTI model, in fact, remains to be done. In the meantime, we properly assume that effective approaches tested in general classrooms are also beneficial to students who require more intensive instruction. This assumption is especially defensible because much of the research has been conducted with populations of students with, or at risk for, vocabulary difficulties. Therefore, the chapters that follow describe vocabulary instructional techniques designed to ensure that all students make adequate vocabulary progress, including both students at risk for school failure and those with high-incidence disabilities, including linguistically and culturally diverse students for whom effective Tier 1 vocabulary instruction is particularly crucial.

Finally, most of the vocabulary approaches we describe as promising and viable were not tested specifically with special education students. As noted above, many were tested in general education classrooms, and some were tested with students

with, or at risk for, language difficulties (and therefore used at the Tier 2 or 3 level). The populations included in many of these studies include bilingual learners and English as second language (ESL) learners, and a small number of studies were conducted with special education populations and other at-risk student samples. Our assumption is that many of the small-group and individual approaches are appropriate for use in Tier 2 or 3 interventions with students with disabilities or those with, or at risk for, vocabulary difficulties. Vocabulary skills, unlike more constrained reading skills like letter knowledge or phonological awareness, are more difficult for at-risk students and students with learning disabilities to learn, and therefore require more opportunities for practice.

Given these realities of the research to date in vocabulary skills, this is our approach. We extracted information from the various disciplines that we judged would be of greatest value to teachers. Our objective was practical information on how vocabulary is learned and how it can be most effectively taught.

Because vocabulary knowledge strongly influences reading comprehension, a wide variety of interventions have been studied to increase school-age students' vocabulary knowledge. These interventions in fact begin at preschool. In keeping with a developmental perspective, some of the research we reviewed is from the early childhood field. Young children learn words from spoken contexts and interactions. One widely studied group of related early childhood interventions includes the storybook reading interventions, in which vocabulary is taught in the context of reading aloud and talking about books. Speaking, reading, and written vocabulary vary considerably. These differences call for different teaching techniques for expanding a young child's speaking vocabulary, versus directly teaching older students new vocabulary words and/or strategies to use independently to maximize their incidental learning from reading contexts. At the other end of school-based interventions, we summarize comprehension and word-learning strategies taught to help middle school and older students learn new vocabulary in their independent reading. Many of the principles and practices we highlight characterize effective vocabulary interventions across the preschool through middle school grades. Careful consideration of these principles and practices reveals the key elements that teachers can use to inform their vocabulary instruction.

Included in this book is research from the fields of linguistics and second-language learning, some of which is informed by cognitive processing models as well as by training studies. This work has raised awareness of the importance of vocabulary in language learning, in particular for older students. For example, the work of linguists on word features seems important to consider initially in deciding upon a starting point for instruction—that is, a principled set of key words for inclusion—as well as to review the complexity of words often overlooked in vocabulary instruction. Research on second-language learning likewise targets word corpora that are a high priority for new English language users, including a focus on the types of words that are most important to teach, identified in specialized groups of written word corpora. Linguists have contributed practical information on word features that influence how to teach vocabulary.

Across the developmental span and across these disciplines, we include the teaching strategies that are most promising, based on the research evidence and design features. We elaborate on several prominent approaches and further direct our readers to original studies and published handbooks that include complete information on teaching procedures. Across the fields and teaching approaches, however, we highlight instructional principles that teachers can apply regardless of the reading content they use in their classroom. Teachers have shifting instructional priorities, and the time they can allocate to vocabulary will vary greatly. In some cases, teachers have the opportunity to implement a very intensive vocabulary program. For example, a teacher may be in a school that has adopted a schoolwide approach to vocabulary like the Word Generation program (Snow, Lawrence, & White, 2009). At other times, however, vocabulary instruction may take a "back seat" in a school's teaching agenda. Regardless of the amount of time and energy available for a full-scale vocabulary effort, the instructional principles we spotlight may be applied across the breadth of instructional programs and goals.

Chapters in this book summarize the range of vocabulary topics informed by this cross-disciplinary synthesis that emphasizes practical relevance for teachers. In Chapter 1 we present a developmental perspective on vocabulary acquisition, including a review of the chief metalinguistic influences on vocabulary development; the reciprocal relationship between phonemic awareness and vocabulary; the contributions of morphological awareness to vocabulary and comprehension; the multiple meanings of words; and the contributions of syntactic awareness to reading vocabulary and comprehension. We summarize research on the influence of early language experiences as well as individual differences in children's early vocabulary growth, and we assess their implications for later learning.

In Chapters 2 and 3 we "unpack" aspects of vocabulary knowledge that influence reading and understanding texts. Many words have multiple meanings that are often overlooked in teaching vocabulary, and good readers and writers are sensitive to this aspect of words. Properly understanding morphology contributes to both vocabulary instruction and growth. Word frequency may inform the sequence and choice of vocabulary that is directly taught. Collocations, or words that occur frequently together, may also be useful in planning instruction and in building word patterns and phrases. When teachers plan explicit instruction in individual words, they often draw from word lists. The most widely used word lists, or corpora of words, draw together high-frequency, root, and academic words. We elaborate on the major word collections and their usefulness during particular stages of instruction.

Finally, we review the most widely recommended approaches for vocabulary instruction. Chapters 4 to 6 provide a developmental overview of vocabulary instruction from preschool to middle school. In these chapters we summarize instructional approaches that are either "scientifically based" or "research based." We review their empirical bases and describe the instructional strategies. Because many of these approaches are embedded in research studies, we attempt, to the extent possible, to operationalize them and describe the explicit learning activities. Early preschool

and kindergarten approaches include the extensively researched dialogic reading strategy, other storybook reading approaches, and the Early Vocabulary Connections (Nelson & Vadasy, 2008) scripted instruction. School-based approaches include the robust Tier Two vocabulary approach (Beck, McKeown, & Kucan, 2008) and the academic word-learning program Word Generation (Snow et al., 2009). Finally, we review independent learning approaches based on specific word-learning strategies, such as context use, the keyword method, semantic analysis, morphological analysis, and dictionary use.

The two remaining chapters address areas for which there are at present only limited research and resources available. Chapter 7 addresses the current state of the art of vocabulary assessment. In this chapter we review norm-referenced and standardized vocabulary assessments as well as alternative vocabulary assessment approaches. Chapter 8 summarizes the state of our knowledge regarding vocabulary instruction for language-minority students, and we suggest specific ways in which schools can provide comprehensive prevention and intervention approaches for increasing numbers of students from culturally and linguistically diverse backgrounds.

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