

HOW CAN BOOK READING CLOSE THE WORD GAP? FIVE KEY PRACTICES FROM RESEARCH

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Book reading has long been identified as a meaningful context for introducing new words to young children. More than a quarter-century of research shows that children learn more from book reading when adults use particular strategies to foster discussion of the book (Meyer, Wardrop, Stahl, & Linn, 1994; Robbins & Ehri, 1994; Scarborough & Dobrich, 1994). Many strategies have been identified (e.g., Kucan, 2012; Neuman & Roskos, 2012); however, as early childhood teachers often have limited instructional time and serve children with a diverse range of skills, teachers may benefit from clear guidance regarding which strategies are the most effective and how to use those strategies most effectively (Neuman & Dwyer, 2009).

This paper distills from the sizable research literature the evidence-based strategies that improve early vocabulary development in the context of book reading. We focus specifically on effective strategies for children ages 3–6 because this time is critical for developing foundational vocabulary (Snow, Burns, & Griffin, 1998). The core strategies are not unique to a

specific curriculum but instead can be implemented during book reading, a common activity in preschool and kindergarten classrooms regardless of the particular curriculum in use.

Vocabulary Development and the Word Gap

Learning words plays a critical role in children's development, as words allow children to effectively communicate their ideas and feelings to others and help them make their needs known (Tomasello, 2003). A well-developed vocabulary is also essential for facilitating the process of learning to read (National Early Literacy Panel, 2009). When children are beginning to learn to read, much of their cognitive capacity

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is devoted to understanding the relationship between sounds and letters as they try to “crack the code” and translate print into speech (Kendeou, Van den Broek, White, & Lynch, 2009). When a child encounters an unfamiliar word, he or she must both decode the word and discern its meaning. However, if the child already knows the meaning of a word, both decoding and comprehension are easier, resulting in increased reading fluency and understanding. Children’s language skills also have important effects on their success in academic domains beyond grade-school reading (Snow et al., 1998) and even have been shown to influence children’s experiences beyond the school walls, such as delinquency and other antisocial behaviors (Yew & O’Kearney, 2013).

Young children learn words through interaction with other individuals, especially conversations with caring and responsive adults (Hirsh-Pasek & Burchinal, 2006; Landry, Anthony, Swank, & Monseque-Bailey, 2009). Children acquire vocabulary when adults introduce new words, provide engaging and descriptive explanations for them (verbally and visually), and invite children to use them in conversations and experiences (Brabham, Buskist, Henderson, Paleologos, & Buagh, 2012; Neuman & Roskos, 2012). In general, children need multiple meaningful exposures to new words to learn them (Coyle et al., 2009; Maguire, Hirsh-Pasek, Golinkoff, & Brandone, 2008; Wasik, Hindman, & Snell, 2014). Although the precise number is uncertain, some evidence suggests that a minimum of 20 exposures to a new word are needed (Childers & Tomasello, 2002).

The groundbreaking research of Hart and Risley (1995) highlighted how critical these word-learning experiences are for children, especially those in poverty. Their research team studied

the language exchanges of 42 families from three backgrounds—6 low-income, 23 middle-income, and 13 upper-income households—to assess the ways in which daily parent-child exchanges shape early language development. Hart and Risley’s research revealed that, on average, children from low-income families heard about 616 words per hour, while those from middle-class families heard twice as many (1,251 words per hour) and those from professional families heard more than three times as many (2,153 words per hour). In fact, by age 3, children from high-income families had been exposed to about 30 million more words than children from low-income families. Children who heard more words in their earliest years knew more words at age 3 and performed better at the ages of 9 and 10 on various vocabulary, language development, and reading comprehension measures. Hart and Risley’s findings are a particularly striking illustration of what numerous other studies have shown as well: that the vocabulary and language foundation built in the earliest years of life has great bearing on children’s progress for many years to come, and this foundation may not be optimally strong for many children in poverty.

The Current State of Vocabulary Instruction

The use of research-based, effective vocabulary-building strategies in classrooms would result in more learning for all students, but it is clear that the greatest need for such strategies is for those students who enter school behind in their language development. However, recent research examining how vocabulary is taught in classrooms has revealed several concerning patterns. First, Neuman and Dwyer (2009) reviewed 10 early literacy curricula used by Early Reading First and showed that these commonly used preschool curricula

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devoted very little time to explicit vocabulary instruction and gave teachers almost no guidance on specific vocabulary instruction strategies. Similar findings were identified by Wright and Neuman (2013) in a study of commonly used reading curricula.

Likely as a result, there are indications that, in practice, vocabulary instruction is often infrequent and cursory. For example, in an observational study of kindergarten children, Wright (2012) reported that very limited vocabulary instruction occurred and that this instruction consisted of brief, one-time word explanations from the teacher with little or no follow-up. These findings suggest that teachers may not know what strategies best promote word learning in children, how to implement them, or how to integrate them into standard classroom activities.

Pause and Ponder

- Do you read and reread books to children?
- Do you provide child-friendly definitions for unfamiliar words before, during, or after book reading?
- Do you have conversations with children about the words, concepts, and narratives in the books you read?
- Do you integrate conversations about new words into other activities during the school day?

Book Reading

Book reading is widely acknowledged as an essential activity for supporting early language and vocabulary both in the home and in the classroom (Bond & Wasik, 2009; Connor, Morrison, & Slominski, 2006). What makes book reading such a potentially effective platform for supporting the language and vocabulary development of young children? First, high-quality, well-written books can expose children to more complex and advanced language and vocabulary than they would hear at home, on the playground, or in other classroom activities or lessons (Nagy & Townsend, 2012; Snow et al., 1998). For example, children may not encounter the words *ledge*, *pier*, *murk*, *risky*, *bothersome*, or *hiked* in day-to-day conversations with parents or teachers, but they would find them while listening to *The Circus Ship* (Van Dusen, 2009). Similarly, unusual words such as *swelled*, *commotion*, *jostled*, and *lumbered* are clearly and memorably presented in *The Mitten* (Brett, 1989). Second, illustrated books often have pictures that represent novel or interesting words that help children determine their meanings as well as captivating narratives to help children understand those new words across contexts (Ganea, Pickard, & DeLoache, 2008). Finally, these same features of books can boost children's attention and engagement, helping them to learn vocabulary more efficiently (Sipe, 2002).

However, simply reading the text of books aloud to children appears to be a necessary but insufficient strategy for

building vocabulary (Meyer et al., 1994; Scarborough & Dobrich, 1994). Instead, research suggests that book reading needs to include certain "active ingredients" to promote vocabulary learning (Marulis & Neuman, 2013; Wasik et al., 2014). In this article, we describe in detail the approaches with the strongest evidence base and discuss how teachers can integrate these strategies for vocabulary development into daily lessons and activities.

Building Vocabulary Through Book Reading: Which Strategies Matter?

To elucidate which book reading strategies best help young children build vocabulary, we conducted a critical review of the corpus of rigorous randomized controlled studies examining the impact of book reading on vocabulary development (Wasik et al., 2014). In brief, we identified 34 rigorous experimental studies (published between 1988 and 2014) of book-reading interventions that directly raised children's vocabulary and determined what strategies (or, in many cases, combinations of strategies) explained children's vocabulary gains. We then closely examined how these strategies were implemented and noted open questions that still need to be resolved before children's word learning can be optimized. See Appendix A for further methodological details and the list of 34 studies included in our critical review.

Across studies, five research-based strategies emerged, suggesting that teachers should (1) define new words, (2) discuss

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and ask children questions about new words, (3) reread books several times, (4) have children retell stories from books, and (5) integrate new words and definitions throughout classroom activities. In the following sections, we summarize the evidence supporting each strategy and discuss some of the varied ways in which teachers could use these techniques. Table provides a brief overview of the strategies and describes how they complement the Common Core State Standards (CCSS).

Suggestion 1: Define New Words

Research clearly shows that children learn words through book reading more thoroughly when provided with a child-friendly definition of new words; more than one-third of the studies we reviewed provided definitions to children as part of the intervention. Child-friendly definitions are used to explain to children the meaning of a new word in terms that they will understand by relating the word to objects, concepts, or ideas they may already know. To provide a child-friendly definition, teachers need to have a good sense of what children already know and how new words can be connected to that background knowledge. For example, Justice, Meier, and Walpole (2005) examined the effect of providing a simple, child-friendly explanation of a word's meaning when encountering that word during storybook reading; they

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Table Recommended Strategies, Examples, and Links to Common Core State Standards

Strategy	Example from <i>Bear Snores On</i> (Wilson & Chapman, 2005)	Link to CCSS
Provide child-friendly definitions for unfamiliar words.	Choose 5–10 words, such as <i>mole</i> , <i>hibernate</i> , <i>lair</i> , <i>den</i> , <i>sneaked</i> , and <i>slumbering</i> , and provide short definitions prior to reading the book: “ <i>Hibernate</i> is sleeping through the winter,” or “ <i>Slumbering</i> is sleeping,” or “A <i>lair</i> is a secret home.” Then provide a descriptive picture or demonstration of the word.	The Vocabulary Acquisition and Use Standards imply that students should be exposed to, learning, and using new vocabulary words on an ongoing basis.
Ask questions and have conversations about new words and their definitions.	Open-ended questions could include “Which animals are sneaking into the bear’s lair?” or “Why are the animals so interested in staying in the bear’s den?” To encourage children to practice using their new words, ask questions that elicit word use, such as “What is it called when bears sleep in the winter?”	Numerous elements in the CCSS support extended conversations between teachers and students. For example, the Standards assert that children should be able to answer teachers’ questions about “key details, ideas, characteristics, settings, events, or facts.” These conversations build vocabulary and comprehension.
Reread books.	Teachers should consider reading books at least twice, if not more often, depending on the complexity of the text, the interest level of the children, and the number of new words or concepts the book introduces.	Although no specific Standard addresses rereading, rereading facilitates the other ELA Standards, as it provides further opportunities to reinforce word meanings, extend comprehension, and have rich conversations about details.
Engage children in retelling activities and encourage them to retell the story using new vocabulary.	Invite a small group of children to act out the story, each taking on the role of a different animal and imagining its perspective.	Retelling texts is an explicit Standard.
Integrate new words into other activities during the day	Teachers can integrate new vocabulary into science, math, art, or free play. For example, a science activity could discuss animal habitats or characteristics and the reasons why some animals hibernate in the winter.	Teachers can continue supporting Standards by asking children questions and exploring key concepts from texts during other classroom activities.

found that children were more likely to learn a new word if a definition was provided. This effect was particularly large for children with low initial vocabulary knowledge.

Studies have also identified some important nuances about providing definitions in the context of book reading. Having a teacher provide a definition of a word and point to an illustration of that word (Reese & Cox, 1999) or inviting children themselves to point at or label pictures of new vocabulary words (Coyne et al., 2009; Sénéchal, Thomas, & Monker, 1995) improves word learning. Other studies have used three-dimensional props as visual representations to support children’s word learning (Wasik, Bond, & Hindman, 2006; Zipoli, Coyne, & McCoach, 2011). Thus, various different visual representations of words can help clarify and reinforce children’s understanding of new vocabulary.

Classroom Implications. One potential source for child-friendly definitions of words is a web-based resource such as Wordsmyth (www.wordsmyth.net). Teachers may find it helpful to supplement these oral definitions with additional visual illustration. For example, when a preschool or kindergarten teacher introduces the word *mole* in preparation for reading *Bear Snores On* (Wilson & Chapman, 2005), a story of a wintertime get-together among forest animals, the teacher might say, “A mole is small animal, about the size of a mouse, that lives underground,” and then show a picture of a mole in the book or from an additional source. Other words, such as *snore* and other verbs, might benefit from demonstration. For example, the teacher could point out, “A snore is a loud sound that some people or animals make when they are sleeping,” and then model snoring (and invite children to join in).

It is wise to focus on approximately 5–10 words per reading session, depending on the attention span and language ability of students in the class. Definitions also need to be presented multiple times, across the school day, and over multiple days to solidify children’s understanding and use of new words.

Suggestion 2: Discuss and Ask Children Questions About New Words

Although providing a simple definition is valuable, children learn words even faster and more thoroughly when teachers spend a little time further elaborating on words and their meanings through questioning and conversation about words before, during, and after book reading. One approach to discussing and asking questions throughout book reading is dialogic reading. Developed by Whitehurst and colleagues (Whitehurst et al., 1988;

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Whitehurst et al., 1994), dialogic reading is a set of techniques by which the adult engages the child in discussing the book with the ultimate goal of transferring control of discussion to the child. In particular, adults prompt children to talk about various aspects of the book (e.g., plot, illustrations, their own opinions of and reactions to the story) using completion and open-ended prompts. Adults then evaluate and expand on the child's response, following up with additional prompts to keep conversation going. In this way, rather than focusing on specific vocabulary words, dialogic reading encourages child talk more generally. Early work found that this approach positively affects children's vocabulary development relative to book readings with less interaction (Whitehurst et al., 1988; Whitehurst et al., 1994). In a recent study that compared dialogic reading to a less structured style of interactive reading, results showed that both approaches improved child vocabulary equally (Lonigan, Purpura, Wilson, Walker, & Clancy-Menchetti, 2013). These results suggest that teacher-child conversation and discussion about the book result in important growth in many aspects of language and literacy.

More recent evidence included in our review underscored that specifically asking questions about vocabulary words is efficacious. For example, several studies (Coyne et al., 2004; Coyne et al., 2007; Lever & Sénéchal, 2011) found that asking questions during book reading about words that have just been

defined provided additional opportunities for children to talk and learn about new words.

Further, our review also showed that questioning can vary in complexity, from simple and closed prompts such as “Is a hippo big?” to more complex recall and comprehension questions that test story understanding, such as “Which animals in *The Circus Ship* were mammals?” More challenging still are inferential questions that involve putting information together in new ways or drawing on outside information, such as, “What are the differences between mammals and reptiles?” Research has found that, in fact, children's vocabulary learning appears to be influenced by the types of questions asked and the order in which they are asked (Blewitt, Rump, Shealy, & Cook, 2009). For example, providing an element of scaffolding in the questioning technique by asking low-demand questions when words are first introduced (e.g., “Point to the ax in the picture”) and high-demand questions as children become more familiarized with word meanings (e.g., “Why did the carpenter use a saw rather than an ax?”) helps children develop broader and deeper understandings of word meanings.

Classroom Implications. Questions should be frequent but strategic. When reading *Bear Snores On* (Wilson & Chapman, 2005), the teacher might initially ask questions about more fundamental ideas, such as “What is the bear doing in this den?” and “What is the rabbit doing?” and then progress as

the story unfolds to more sophisticated comprehension questions, such as “Why are the animals so interested in staying in the bear's den?” and “Why are the animals concerned about waking the bear up?” Finally, the teacher might prompt the child to expand beyond the content of the story to ask, “How could these animals help each other through the rest of the winter?”

Suggestion 3: Reread Books

Many teachers will read a book once and then move on, hoping to cover more topics and expose children to more vocabulary. However, consistent with the broader word-learning literature suggesting that children need multiple exposures to words to remember them, our review indicates that reading books more than once—especially when they contain several unfamiliar terms—helps children better understand and begin to use new words. Of the 34 studies we reviewed, three specifically examined the effect that rereading a text has on word learning. Robbins and Ehri (1994) found that words that were heard four times were more likely to be learned than those heard two times or not at all. However, while four exposures were superior to two or no exposures, this number was still insufficient for mastery of all target words, as children still learned only 4 of the 11 words presented in the stories. Similarly, Sénéchal (1997) compared a single book reading to reading a book three times, again showing that more words were learned in the repeated reading condition. Still, however, children could only correctly identify 56% and produce 33% of the novel words after three readings. Biemiller and Boote (2006), while finding that reading a text four times versus two times did not result in demonstrably greater word learning for individual words, did note that rereading resulted

“Retelling supports vocabulary learning because, like rereading, it increases children’s exposure to new words.”

in greater opportunity for more words to be learned because teachers had more chances to provide definitions and discuss more words from each book.

Classroom Implications. Rereadings could be conducted in a variety of different ways, but perhaps the greatest benefit of rereading is mining texts more deeply for the breadth and depth of new words. For example, a preschool teacher reading *Bear Snores On* (Wilson & Chapman, 2005) for the first time might focus largely on the vocabulary deriving from main themes of the story (e.g., woodland habitats and animals, hibernation) and then focus the second reading a day or two later on more nuanced discussion of the other animals in the bear’s environment and their experiences during the winter, highlighting additional words as well as their connections to the words introduced during the previous reading. In this way, teachers use each book reading as a component of a larger scaffold, constructed systematically over time, to nurture children’s comprehension and usage of new (and increasingly complex) words and ideas.

Suggestion 4: Engage Children in Retelling Activities

Retelling is the re-enactment of key elements of a book by children, allowing them to take control and ownership of the narrative or information in the text. For example, after reading *The Three Billy Goats Gruff* several times,

three children might each take one role (i.e., the goats, the troll) and, with teacher guidance or on their own, act out the story from beginning to end. Because retellings can be cognitively demanding, especially for young children, they often involve props or paging through the book to support children as they act out the story. Given that children are putting the story into their own words, retelling is best conducted among small groups of children to give everyone a chance to talk and to hold children’s attention. Retelling supports vocabulary learning because, like rereading, it increases children’s exposure to and use of new words and concepts in a story. Three studies in our review (Karweit, 1989; Leung, 2008; Leung & Pikulski, 1990) explored the impact of retelling on word learning, and all found significant impacts on word learning.

Classroom Implications. Returning to the *Bear Snores On* (Wilson & Chapman, 2005) example, after at least two readings of the book, the teacher could invite a small group of children to act out the story, each taking on the role of a different animal and imagining its perspective. Retelling could conclude with the end of the story or, depending upon children’s skill and engagement, teachers could invite children to continue the story using their imaginations to generate new plot events. Teachers should encourage children to practice with new vocabulary in their retelling.

Suggestion 5: Integrate New Words Into Other Classroom Activities

Likely because of the benefits of multiple exposures in varied, meaningful contexts, research has shown that when teachers continue to use the vocabulary words that were introduced during book reading in postreading discussions and other classroom activities, children are more likely to learn those words. For example, Wasik and colleagues (Wasik & Bond, 2001; Wasik, Bond, & Hindman, 2006) trained teachers to provide small-group, play-based activities in classroom centers related to the content of the book. Teachers circulated through the small-group center activities and posed questions, allowing children to hear and use the book vocabulary while playing. These follow-up activities featuring the target words resulted in a significant increase in children’s knowledge of both the target vocabulary words and vocabulary in general. Silverman, Crandell, and Carliss (2013) compared word learning in two conditions: book reading alone and book reading with extension activities. The results clearly indicated that children learned more words when they experienced book reading as well as extension activities that encouraged teacher and children’s usage of the target words.

Classroom Implications. Revisiting *Bear Snores On* (Wilson & Chapman, 2005), a preschool or kindergarten teacher could situate the story in a study of winter. He or she could conclude a

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book reading by telling children to break into small-group center activities, each of which reinforces the ideas and vocabulary of the story. For example, in the block area, children can construct the bear's den and perhaps consider what they might add that would help the visiting animals feel more comfortable. In the housekeeping area, they could pretend to be the animals from the story and prepare a cozy winter feast similar to the one in the bear's den. In the conversation station, a small group of children and an adult could talk about picture cards of winter-related vocabulary, including the animals from the story. Finally, in the library area, children could reread this and other winter-themed books on their own and retell the stories together. Each activity supports children's use of target vocabulary words from the book and theme and, especially as the teacher poses questions throughout the activity period, will foster deeper understanding of the words.

Implementing Strategies Into Classroom Instruction

Although the strategies we presented are research-based techniques with evidence of effectiveness in the classroom, teachers face practical issues when implementing them. In the following sections, we provide some general guidance for teachers as they move toward incorporating these techniques into real-world instruction.

Word Choice

One issue cutting across the five suggested strategies we identified concerns the challenge of choosing particular words to highlight during the book reading. Beck and her colleagues (Beck & McKeown, 2007) suggest that teachers consider the relative challenge or complexity of the word when teaching

vocabulary and strive for a balance between more basic (tier 1) and more complex (tiers 2 and 3) words. However, in some classrooms, particularly in under-resourced communities, children may be unfamiliar with many tier 1 words, and teachers must strategically introduce a large but reasonable number of these words while also expanding their understanding of more complex terms. Our own work (Wasik, Bond, & Hindman, 2006) suggests that teachers might select words from all three tiers in light of several criteria, including whether the word is (a) unfamiliar to many children. Teachers may not know children's levels of background knowledge without explicitly prompting for this content; they might find it useful to ask children about the meaning of a word (e.g., "Tell me about *hibernation*") to assess children's level of word knowledge and inform their choice of target words. Further, we have found that children benefit when highlighted words are (b) central to comprehension of the storybook; (c) used several times in the book; and (d) linked to an overarching theme, unit, or big idea that would allow for multiple authentic exposures to the word beyond a single reading.

Adapting Instruction to Complement Diverse Knowledge and Interests

Teachers also face the challenge of adjusting instruction, such as child-friendly definitions, for students of different language backgrounds and

students with different amounts of vocabulary knowledge. Such concerns are especially salient in early childhood, where a single classroom might include children from ages 3–6. Reading books in small groups of approximately three to five children can allow teachers to both focus more on children's individual needs and create more opportunities for child participation. Grouping might be random or strategically oriented around child skill levels. Grouping heterogeneous skill levels together allows those with less knowledge to learn from more expert peers, while those experts have the chance to solidify and extend their knowledge by sharing it. Alternatively, grouping together children with homogeneous skill levels facilitates focus on specific ideas or competencies. Teachers should balance their use of these strategies over the course of a unit.

Bringing Words to Life for Children

Attracting and maintaining young children's attention and engagement is a key challenge of instruction in any area, including book reading. Using visual representations of vocabulary words, such as picture cards or props that represent the words, both draws children's attention and provides helpful content about the words. The tools are especially important for children who are dual language learners as well as for children with special needs, who may benefit from concrete support (Coyne et al., 2009). Keeping children's attention as

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words are defined can also be a challenge. In our work on book reading, we have found that establishing specific management routines during book reading—with particular attention to turn-taking during classroom conversations—helps facilitate and organize children’s engagement. Finally, creating an excitement about reading and learning words in which word use is encouraged and rewarded creates a culture of vocabulary learning that fosters children’s motivation.

Remaining Questions About the Best Strategies for Vocabulary Development

The current literature suggests that when teachers use some combination of the strategies of rereading, defining, discussing and asking questions, retelling, and integrating words in other classroom activities, their students will experience enhanced vocabulary growth. Although the research reviewed earlier is incredibly promising and provides examples of specific strategies teachers can employ to increase children’s vocabulary knowledge and use, questions still remain about how these strategies can be most effectively implemented in classrooms.

Question 1: How Can We Optimize Vocabulary Learning for All Children?

None of the strategies we reviewed resulted in children learning all of the

words that they were taught. In fact, in many of these 34 high-quality studies, children learned about half of the words. Further, very few studies examined whether children remembered these words after the intervention ended, and almost none checked whether children still remembered them after a short delay, such as six weeks. In addition, not all children derived the same benefit from vocabulary instruction. Of the studies that examined whether the effectiveness of the strategies varied by the initial language ability of the children, most found that the strategies were more effective for children who were higher-achieving at the beginning of the intervention (e.g., Blewitt et al., 2009; Robbins & Ehri, 1994). These nuances suggest that all children can (and should) benefit from these strategies but that there may be opportunities to increase both immediate gains and retention over time as well as to support children with less advanced language development. Children at risk may need even more intentional exposure, instruction, and interaction with new words to truly incorporate them into their vocabularies.

Of great interest to researchers and teachers are newly emerging technologically based approaches to word learning. For example, many children are practicing leveled reading using classroom computers; it is possible that similar software could be used at school or home to support vocabulary development in engaging,

individualized, and resource-efficient ways. However, at present, no studies have examined the effectiveness of technology (e.g., electronic books, tutoring programs) for word learning in early childhood using stringent (e.g., randomized controlled trial) methods. Thus, this issue remains an important frontier for the field.

Question 2: How Much Vocabulary Instruction Do Children Need?

Our review also suggests that more needs to be known about how much vocabulary-related instruction children need. While some research has indicated that, on average, children need to hear a word at least 20 times to learn the word, the necessary number and diversity of exposures to a word may be greater if the goal is nuanced understanding and expressive skill, whereas fewer exposures may be sufficient for a more basic or receptive understanding (Coyne et al., 2010). Similarly, the number of times that teachers need to reread a particular book may depend on the complexity of the book’s language, the children’s response to a book, and how well the book is integrated with other ongoing themes and classroom activities. Perhaps when targeting a set of new words, teachers should choose several books that feature these words and then reread those that are most engaging to or most challenging for children.

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Question 3: How Should Exposures to Vocabulary Words Be Spaced Out?

A related question involves the fact that word learning seems to benefit from distributed practice, meaning that the word should be returned to, used, and reviewed over several days or even weeks. Currently, we know little about the ideal timing of vocabulary instruction or how timing might depend on the child, the word, or the classroom context. For example, dosage may vary depending on the child's current vocabulary, the speed at which the child learns in general, whether the child has been exposed to the word before, and whether the child has previously been exposed to similar concepts (Wasik et al., 2014). A promising approach for individual teachers is to actively monitor whether children are learning the meanings of words by asking them questions about the meanings of the words and checking for understanding. This can be done in a more formalized way, using one-on-one progress monitoring approaches, or through more informal questioning of children in one-on-one, small-group, and large-group settings (Landry et al., 2009).

By asking open-ended prompts such as "Tell me about *hibernation*" or "What does it mean when the bear *slumbers on*?" teachers can draw out children's knowledge and then pose more focused follow-up questions to explore specific concepts.

Question 4: How Should Strategies Be Combined?

Clearly, more needs to be known about what combination of strategies, and for which children, most effectively improves vocabulary. The research suggests that children with smaller vocabularies and less developed language skills may need more time on basic vocabulary words as compared to children with more advanced language capacities. This can be challenging, to say the least, for a teacher whose classroom includes children with varying language levels. After a whole-group book reading, teachers may want to focus on different words or concepts during small-group activities or projects, with the small groups made up of children with similar language levels.

Summary

Book reading can serve as an important vehicle for developing vocabulary. However, our review suggests that book reading needs to be accompanied by other opportunities for children to be exposed to, learn the definitions of, and most importantly, use new vocabulary in conversation with teachers and peers. This article has reviewed several of these effective strategies, including providing explicit definitions, discussing and asking questions, rereading, retelling, and integrating practice with new vocabulary into other classroom activities. Teachers can play an important role in closing the word gap by implementing these promising strategies in the classroom.

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TAKE ACTION!

1. Provide child-friendly definitions for unfamiliar words.
2. Ask questions and have conversations with children about new words and their definitions.
3. Reread books several times to provide multiple exposures to words in meaningful contexts.
4. Engage children in retelling activities and encourage them to use new vocabulary.
5. Integrate new words from book readings into other activities during the day.

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Appendix A: Critical Review of 34 Papers

This critical review of research examined the strategies and characteristics of vocabulary interventions that showed significant impacts on the receptive and expressive vocabulary of children. We searched electronic databases (specifically JSTOR, PsycINFO, ISI Web of Science, Education Abstracts, ProQuest, and Educational Resources Information Center) and Google Scholar from 1988–2014 (26 years) using different combinations of keywords. Descriptors included *vocabulary*, *book reading*, *intervention*, *instruction*, *training*, *learning*, *development*, and *teaching*. In addition, we reviewed the studies referenced in recent meta-analyses such as Mol and colleagues (2009, 2011) and Marulis and Neuman (2010, 2013). The following criteria were used for inclusion in the review.

- Studies had to examine an adult (rather than technology-based) book reading intervention and explore its effects on children's word learning.
- Studies had to include children ages 3–6 (e.g., preschool and kindergarten age) who were typically developing monolingual learners of English.
- Studies had to include a child outcome measure on English (rather than nonsense word) vocabulary and measure expressive or receptive vocabulary, whether using standardized tools (e.g., the PPVT) or tools specific to the intervention target words (see Wasik & Bond, 2001).
- Studies had to employ an experimental or quasi-experimental design, incorporating one or more of the following: a randomized controlled trial, a

pretest–intervention–posttest comparison with a control group, group comparisons with random assignment or pre- and post-testing, or within-subject designs.

- Studies had to be published.
- Studies had to demonstrate statistically significant impacts on at least one child vocabulary outcome.

The references listed are the studies we ultimately included in the review.

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