

# Science of Reading

## Words, Words, Words: The Building Blocks of Reading Comprehension



### Why Word Meanings Matter for Comprehension

Word meanings hold text, ideas, and content together, which sets up the possibility for children to understand what they read (Reutzel & Cooter, 2024; Hiebert, 2013). When we talk about word meanings related to reading, we are referring to words children have heard and that they understand and use in language. Children who have a large repertoire of word meanings available in their mind coming into school are on a strong path to reading (Eckerth & Tavakoli, 2012; Lervåg & Aukrust, 2010). In like manner, children who have developed limited vocabularies are less likely to have a chance to have robust reading comprehension throughout the early years of education (Johnson & Johnson, 2011; National Research Council, 1998; Neuman et al., 2011, Hart & Risley, 1999). Understanding word meanings requires us to pay attention to both morphology or within-word meaning units (Mesmer, 2024) and vocabulary that generally refers to within-passage meanings of words (Lehr et al., 2004). Knowing how to successfully construct meanings of words using morphological skill and broad world knowledge helps build a capacity for the reader to comprehend what they read (National Reading Panel, 2000).

### What Is Morphology?

Morphology is the study of meaningful units in language and how those meaningful units are combined to form words. Our understanding of morphology helps us teach a child to recognize that a word is more than just a sequence of sounds. Words are composed of meaningful units that help the reader better decipher a word's meaning. These can be the entire word (e.g., dog) or just a portion of the word (e.g., dogs). Just like phonics, morphology should be an important part of our professional language (Mesmer, 2024).

# What Are Research-Backed, Effective Morphology Instruction and Practice?

Research has clearly established the effectiveness of systematic, explicit instruction for teaching word-level skill (Bowers et al., 2010; Mesmer, 2024). Mesmer provides a broad scope and sequence for the teaching of morphology through Grade 5, which is central to the systematic employment of student morphemic learning over time. There are several effective elements of this systematic approach to morphemic instruction. First, teach intentionally selected base words with known meanings. Second, teach students high-frequency affixes. Third, balance explicit instruction with highly participatory activities to foster student engagement. Fourth, prompt students to talk about word meanings and structure. Fifth, provide ongoing review of taught affix meanings and strategies for determining within-word meanings.

## What Is Reading Vocabulary?

Vocabulary refers to the knowledge we have of words and their meanings (Lehr et al., 2004). A student's vocabulary knowledge is strongly related to their reading comprehension (Anderson & Freebody, 1983; National Reading Panel, 2000). Children will acquire up to 10,000 vocabulary words in their first five years, and after that they continue to learn up to 3,600 words per year (Clark, 1993; Johnson & Johnson, 2011).

## What Are Research-Backed, Effective Vocabulary Instruction and Practice?

Most of the words acquired by children are learned incidentally. However, there are some that should be taught explicitly (Rahmani & Nasri, 2013; Rupley et al., 2009). Beck, McKeown, and Kucan (2013) identify three tiers of vocabulary words. Tier 1 are basic words that appear frequently in our language. Tier 2 are words that are more frequently used by adults. Tier 3 are less frequent words associated with specialized knowledge domains (Reutzel & Cooter, 2024). Vocabulary words to teach explicitly should be drawn from Tiers 2 and 3.

The National Reading Panel (2000) provided four guidelines for vocabulary instruction. First, effective vocabulary instruction will include high-quality classroom learning attributes and a 25- to 35-minute instructional block that is teacher managed, focused on word meaning, and includes small group instruction. Second, children benefit from indirect exposure to oral and written word meanings throughout the day. Third, nurturing word consciousness in students can boost vocabulary learning. Finally, when vocabulary gaps exist, flood these gaps to increase learning.

### References

- Anderson, R. C., & Freebody, P. (1983). Reading comprehension and the assessment and acquisition of word knowledge. In B. Hutson (Ed.), *Advances in reading/language research* (pp. 231–256). JAI Press.
- Beck, I. L., McKeown, M. G., & Kucan, L. (2013). *Bringing words to life: Robust vocabulary instruction* (2nd ed.) Guilford Press.
- Bowers, P. N., Kirby, J. R., & Deacon, S. H. (2010). The effects of morphological instruction on literacy skills: A systematic review of the literature. *Review of educational research, 80*(2), 144–179.
- Clark, E. (1993). *The lexicon in acquisition*. Cambridge University Press.
- Eckerth, J., & Tavakoli, P. (2012). The effects of word exposure frequency and elaboration of word processing on incidental L2 vocabulary acquisition through reading. *Language Teaching Research, 16*(2), 227–252.
- Hart, B., & Risley, T. R. (1999). *The social world of children: Learning to talk*. Brookes Publishing.
- Hiebert, E. H. (2013). Supporting students' movement up the staircase of text complexity. *The Reading Teacher, 66*(6), 459–468.
- Johnson, D. D., & Johnson, B. (2011). *Words: The foundation of literacy*. Westview Press.

- Lehr, F., Osborn, J., & Hiebert, E. H. (2004). *Research-based practices in early reading series: A focus on vocabulary*. Pacific Resources for Education and Learning.
- Lervåg, A., & Aukrust, V. G. (2010). Vocabulary knowledge is a critical determinant of the difference in reading comprehension growth between first and second language learners. *Journal of Child Psychology and Psychiatry*, 51(5), 612–620.
- Mesmer, H. A. (2024). *Big words for young readers: Teaching kids in Grades K to 5 to decode—and understand—words with multiple syllables and morphemes*. Scholastic.
- National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. Author.
- National Research Council. (1998). *Preventing reading difficulties in young children*. National Academies Press.
- Neuman, S. B., Newman, E. H., & Dwyer, J. (2011). Educational effects of a vocabulary intervention on preschoolers' word knowledge and conceptual development: A cluster-randomized trial. *Reading Research Quarterly*, 46(3), 249–272.
- Rahmani, F., & Nasri, N. (2013). The effects of instruction type on vocabulary learning: A psycholinguistics study. *Procedia: Social and Behavioral Sciences*, 70(25), 787–794.
- Reutzel, D. R., & Cooter, R. B. (2024). *Teaching children to read: The teacher makes the difference* (9th ed.). Pearson.
- Rupley, W. H., Blair, T. R., & Nichols, W. D. (2009). Effective reading instruction for struggling readers: The role of direct/explicit teaching. *Reading & Writing Quarterly*, 25(2-3), 125–138.