



# **Encyclopedia of Language Development**

## **Vocabulary Growth**

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Vocabulary can be seen as a critical variable in child development and school success. Words are the language units by which meanings are communicated; hence, vocabulary acquisition is closely tied to language comprehension and knowledge construction. Vocabulary growth involves a continuous increase in the representation of word meanings and their corresponding word forms. Such growth entails both more words (quantity of representations) and more refined knowledge about word meanings (quality of representations).

Starting from infancy, children make steady progress in their conceptual development, resulting in a rapid growth of vocabulary. To increase their stock of words, children need to link appropriate meanings to word forms. In the first stage, children use words to refer to a much larger class of objects, acts, or events than adults do. Step by step, children learn to demarcate the meanings of each of the words they encounter. With regard to children's acquisition of content words, it should be noted that children are not limited to making simple associations between specific sound patterns and referents—a process referred to as fast mapping. Research into vocabulary development has shown that children use information from the variety of contexts in which a word is used to make assumptions as to the possible semantic boundaries that characterize the underlying concept associated with the word form—a process referred to as slow mapping. It is therefore generally assumed that vocabulary acquisition proves particularly successful when words are introduced in context-rich environments.

In the first years of life, children's vocabulary growth proceeds primarily through speech encountered through social interaction. Around the age of 1 year, children start out with small numbers of lexical representations that are considered to be holistic and undifferentiated. Starting from about 1½ years of age, the number of lexical items sharply increases up to 3,000 words in preschool-age children. As the number of words in the mental lexicon of the child increases, words tend to be represented in a more systematic and detailed manner with respect to phonemes as the implicit perceptual units underlying the phonological representations of words. This lexical restructuring process enables the child to make fast and accurate discriminations of a growing number of lexical entries. By the end of second grade, children's vocabularies on average amount to up to 6,000 words. Implicit knowledge about the sounds of words used in spoken word recognition may gradually evolve into knowledge about word phonology and morphology, which is necessary for the acquisition of phonological awareness, morphological awareness, and literacy. Literacy acquisition opens up opportunities for children to learn novel word meanings and to refine stored word meanings through reading experience. Given the fact that written text takes on a major role in instruction, a strong impact of literacy on advanced vocabulary development can thus be predicted. Depending on children's literacy skills, it is expected that children in the elementary grades will learn more than 2,000 new word meanings each year—leading to an estimated vocabulary size of 15,000 words by the end of primary school and an estimated vocabulary size of 45,000 words by the end of secondary school.

Importantly, at all ages, children show considerable individual differences in the sizes of their vocabularies. Such individual differences in vocabulary growth trajectories have been attributed to a number of factors. To begin with, child characteristics play an important role in predicting vocabulary growth. First of all, it appears that speech-decoding skills, which can be measured with discrimination and categorization tasks, have an important role to play. Lexical specificity of word representations, which

includes the ability to detect mispronunciations of words, is also important for vocabulary development. Another relevant precursor of vocabulary relates to verbal working memory. Many studies have shown that verbal short-term memory, as measured with nonword repetition and digit- or word-span tasks, is related to vocabulary development from an early age. And when it comes to vocabulary learning from written text, children's word-decoding abilities can be seen as a critical factor as well as their abilities to use contextual and morphological cues to infer word meanings. Finally, vocabulary growth is highly dependent on the quality of input. Meredith Rowe and collaborators have shown that the quality of language input is a critical factor in stimulating vocabulary growth, especially in children from low socioeconomic backgrounds. In their study, velocity and acceleration in vocabulary development at 30 months predicted later vocabulary, particularly for children from low socio-economic backgrounds.

How does vocabulary growth actually take place? Children's vocabularies expand gradually through exposure to new words every day, with accelerated growth due to literacy. Because semantic knowledge is typically acquired over a number of exposures to a word form across multiple contexts, children may have incomplete knowledge of many word meanings, with incremental refinement of semantic knowledge occurring over time. Connectionist and other computational models provide insight into the potential mechanisms underlying the neurocognitive development of both oral and written word representations. For example, a model called latent semantic analysis has demonstrated how meanings can be extracted simply by keeping track of the co-occurrences of words in passages of text—in effect, by tracking collocation statistics indicative of how words are associated with various semantic contexts.

In this and similar models, words are not represented as collections of semantic features but in terms of the similarity of their positions in multidimensional meaning space. Depending on the input source (oral versus written language input), lexical development is seen as the outcome of the interactions between phonological, morphological, orthographic, and semantic information. Lexical growth can thus be seen as a continuous process of restructuring of lexical representations in a self-organizing neural network. Given such incremental learning, and the ability of the system to capitalize on prior learning (in effect, learning how to learn), strong stability in lexical growth trajectories over time is predicted. Indeed, in a study of children in the age range of 1 to 6 years, including the transition from preschool to school, Marc Bornstein and collaborators found evidence of moderate to strong stability of children's lexical development. Stability in vocabulary growth tends to become even stronger as children gradually become literate, such that children with initial advantages in phonological awareness and vocabulary knowledge at the outset of literacy instruction tend to acquire words through text at a faster rate than children with less advanced skills and thus remain advanced relative to their peers.

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**See Also:**

- [Computational Models of Language Development](#)
- [Fast Mapping in Lexical Development](#)
- [Lexical Development](#)
- [Matthew Effects \(Rich Get Richer\)](#)

- [Phonological Processes in Lexical Development](#)
- [Reading, Development of](#)
- [Slow Mapping in Lexical Development](#)
- [Verbal Working Memory](#)
- [Vocabulary Spurt](#)
- [Word Learning Constraints](#)
- [Word Learning Strategies](#)

### Further Readings

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