

## **Word Learning Rules in Children**

**Caitlin F. Herman, Psy.D., Lisa K. Lashley, Psy.D., Charles, J. Golden, Ph.D.**

**Nova Southeastern University**

The ability to learn new words requires the use of numerous cognitive functions. It is expected that from the time a child begins speaking around 12 months of age to about six years old, children learn approximately 14,000 words (Templin, 1957 as cited in Brady & Goodman, 2014). From an early age, children are exposed to the language used around them and slowly develop their own use of language through recognition of objects, combination of phonemes, and memorization of visual and auditory stimuli. In order to successfully master language and learn new words, a child must integrate these processes to not only develop a word, but also understand its meaning and store it in long term memory. This is, in part, accomplished through the phonological loop, which identifies the connection between the stored phonological information as well as the visual, auditory and somatosensory stimuli with which it is associated.

In order to learn new words, children not only need to be able to recognize the phonemes used, but they also need to learn to rapidly sequence the phonemes appropriately as they are spoken. If they are able to piece apart individual words, they then must associate each word with a particular concept in order to give it meaning. This step is crucial, both for understanding as well as retention of the newly learned words. This skill, often referred to as fast mapping, is essential to overall word learning and relies on assumptions about how children interact with cues in the environment. As children grow older and learn more words, these assumptions about how they gain understanding of new words progresses.

One such assumption is that children will assign new words to an object they do not already have a label for, rather than one that has previously been given a name. This allows them

to narrow the search of word and object associations and helps better solidify these connections. Another important aspect is the ability to understand social cues when new words are being presented, such as that of eye gaze; if the child can follow the gaze of the individual speaking to them, they can likely quickly associate the words with the appropriate object, leading to quicker mapping. Finally, as children grow older and have a larger vocabulary, they gain a better ability to use the context of the language surrounding a word they don't know. Using this information, they can deduce the meaning of the word and store and retain that information for future use.

From fast mapping, or associative learning, children develop more words from which they can then gain more context and grasp more understanding of language. This first phase of gaining new words, although called fast mapping, is often slow and effortful, leading to small increases in vocabulary size each week. As children get older and adjust their learning techniques, they begin to rapidly gain language skills. While fast mapping is one factor involved in the learning of new words, there are other important elements that influence the efficiency and accuracy with which children acquire words. The rate at which word learning occurs is also linked to a child's ability to clearly distinguish sounds and phonemes. With more exposure and age, children gain a more discerning ear and are able to more easily and quickly differentiate between sounds, allowing them to recognize and understand more individual words.

Once children have a grasp of the differing parts of words and can understand meanings of slightly different sounds, they can become more confident in the context of the language. Eventually, through these processes, as well as through associative learning, children can also begin to learn secondary and tertiary labels for objects, leading to another burst in language development and word learning. Over time, the meaning of words, context in which they are

used, and their relationships with other words become more cemented in the child's vocabulary and memory.

Difficulties in obtaining vocabulary can occur at any one point in the word learning process. Children with specific language impairments tend to have difficulty with word list learning tasks, which has been associated with different breakdowns in the rules of learning. Evidence suggests that working and short-term memory, as well as general intelligence and language abilities impacted word learning. These difficulties often delay production of first words, create challenges with word finding, and involve worse phonological and semantic word understanding.

Word learning in children is a complex task that is associated with numerous areas of cognitive functioning. The processes involved in word learning leave room for many potential areas of deficits, suggesting that there are many opportunities to improve word learning in children.

### **Further Reading:**

Archibald, L.D.M., & Joanisse, M.F. (2013). Domain-specific and domain-general constraints on word and sequence learning. *Memory and Cognition*, *41*, 268-280. doi: 10.3758/s13421-012-0259-4

Brady, K.W., & Goodman, J.C. (2014). The type, but not the amount, of information available influences toddlers' fast mapping and retention of new words. *American Journal of Speech-Language Pathology*, *23*, 120-133. doi: 10.1044/2013\_AJSLP-13-0013

Nash, M., & Donaldson, M.L. (2005). Word learning in children with vocabulary deficits. *Journal of Speech, Language, and Hearing Research*, *48* (2), 439-458. doi: 1092-4388/05/4802-0439

Regier, T. (2005). The emergence of words: Attentional learning in form and meaning. *Cognitive Science*, 29, 819-865. Doi: 10.1207/s15516709cog0000\_31