

Infants using known verbs to learn new nouns

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Image: Wikimedia Commons

There is a lot that 19-month-old children can't do: They can't tie their shoes or get their mittens on the correct hands. But they can use words they do know to learn new ones.

New research from Northwestern University demonstrates that even before [infants](#) begin to talk in sentences, they are paying [careful attention](#) to the way a new word is used in conversations, and they learn new words from this information in sentences.

For example, if you take an infant to the zoo and say, "Look at the gorilla" while pointing at the cage, the infant may not know what exactly is being referred to. However, if you say, "Look! The gorilla is eating," the infant can use the word that they do know—"eating"—to conclude

that "gorilla" must refer to the animal and not, for example, the swing she is sitting on.

The zoo scenario mirrors the method the researchers used for their experiment. First, infants at ages 15 and 19 months were shown several pairs of pictures on a large screen. Each pair included one new kind of animal and a non-living object. Next, the objects disappeared from view and infants overheard a [conversation](#) that included a new word, "blick." Finally, the two objects re-appeared, and infants heard, for example, "Look at the blick."

"After overhearing this new word in conversation, infants who hear a helpful sentence such as 'the blick is eating' should look more towards the animal than the other, non-living object," said Brock Ferguson, a doctoral candidate in psychology at Northwestern and lead author of the study. "We show that by 19 months, they do just that. In contrast, if infants heard the new word in an unhelpful sentence such as 'the blick is over here' during the conversation, they don't focus specifically on the animal because, after all, in this kind of sentence, 'blick' could mean anything."

The researchers said many people believe that word learning occurs only in clear teaching conditions—for example, when someone picks up an object, brings it to the baby, points to it and says its name. In fact, infants usually hear a new word for the first time under much more natural and complex circumstances such as the zoo example described.

"What's remarkable is that infants learned so much from hearing the conversation alone," said Sandra Waxman, senior author of the study, the Louis W. Menk Professor of Psychology in the Weinberg College of Arts and Sciences and faculty fellow at the Institute for Policy Research at Northwestern. "This shows how attuned even very young infants are to the conversation around them. It also shows how well infants build upon

what they do know to build their vocabulary."

Ferguson said that this study underscores that the amount of language a child hears on a daily basis can have significant consequences on their language outcomes later in life.

"One implication of our new study is that infants who hear relatively little language in the first few years may also be missing out on critical word learning opportunities that arise everyday in the conversations that surround them," said Ferguson. He said future research includes examining the link between language input, processing efficiency and the kind of word learning revealed in the study to better understand how to best support children's language development from a very early age.

The study, "Infants use known verbs to learn novel nouns: Evidence from 15- and 19-month-olds," was published online in the journal *Cognition*. In addition to Ferguson and Waxman, Eileen Graf of the University of Chicago is also a co-author of the article.

More information: Brock Ferguson, Eileen Graf, Sandra R. Waxman, "Infants use known verbs to learn novel nouns: Evidence from 15- and 19-month-olds," *Cognition*, Volume 131, Issue 1, April 2014, Pages 139-146, ISSN 0010-0277, [dx.doi.org/10.1016/j.cognition.2013.12.014](https://doi.org/10.1016/j.cognition.2013.12.014).

Provided by Northwestern University

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