

Parents' 'um's' and 'uh's' help toddlers learn new words, cognitive scientists find

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Jackson Coles, 2, of Webster, N.Y., sitting in the lap of his mother, Christy, watches objects on a special monitor designed to track eye movement during a research study at the University of Rochester's Baby Lab. The study found babies use "um's" and "uh's" to help them learn new words. Credit: J. Adam Fenster, University of Rochester

A team of cognitive scientists has good news for parents who are worried that they are setting a bad example for their children when they say "um" and "uh." A study conducted at the University of Rochester's Baby Lab shows that toddlers actually use their parents' stumbles and hesitations (technically referred to as disfluencies) to help them learn language more efficiently.

For instance, say you're walking through the zoo with your two-year-old and you are trying to teach him animal names. You point to the

rhinoceros and say, "Look at the, uh, uh, rhinoceros." It turns out that as you are fumbling for the correct word, you are also sending your child a signal that you are about to teach him something new, so he should pay attention, according to the researchers.

[Young kids](#) have a lot of information to process while they listen to an adult speak, including many words that they have never heard before. If a child's brain waits until a new word is spoken and then tries to figure out what it means after the fact, it becomes a much more difficult task and the child is apt to miss what comes next, says Richard Aslin, a professor of brain and cognitive sciences at the University of Rochester and one of the study's authors.

"The more predictions a listener can make about what is being communicated, the more efficiently the listener can understand it," Aslin said.

The study, which was conducted by Celeste Kidd, a graduate student at the University of Rochester, Katherine White, a former postdoctoral fellow at Rochester who is now at the University of Waterloo, and Aslin was published online today in the journal *Developmental Science*.

The researchers studied three groups of children between the ages of 18 and 30 months. Each child sat on his or her parent's lap in front of a monitor with an eye-tracking device. Two images appeared on the screen: one image of a familiar item (like a ball or a book) and one made-up image with a made-up name (like a "dax" or a "gorp"). A recorded voice talked about the objects with simple sentences. When the voice stumbled and said "Look at the, uh..." the child instinctively looked at the made-up image much more often than the familiar image (almost 70 percent of the time).

"We're not advocating that parents add disfluencies to their speech, but I

think it's nice for them to know that using these verbal pauses is OK – the "uh's" and "um's" are informative," said Kidd, the study's lead author.

In the study, the effect was only significant in children older than two years. The younger children, the researchers reasoned, had not yet learned the fact that disfluencies tend to precede novel or unknown words.

When kids are between the ages of two and three, they usually are at a developmental stage where they can construct rudimentary sentences of about two to four words in length. And they typically have a vocabulary of a few hundred words.

The study builds on earlier research by Jennifer Arnold, a scientist at the University of North Carolina and a former postdoctoral fellow at Rochester, which found that adults also can use "um's" and "uh's" to their advantage in understanding language. Additionally, work by Anne Fernald at Stanford University has shown that it's not the quality but the quantity of speech that a child is exposed to that is most important for learning.

Provided by University of Rochester

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