

Preschoolers Who Practice Phonics Show Stronger Math Skills, Study Finds

By Sarah Schwartz on July 3, 2019 1:33 PM



Young children who spend more time learning about the relationship between letters and sounds are better at counting, calculating, and recognizing numbers, a new study has found.

Researchers from Liverpool John Moores University in England looked at the **reading and math learning experiences that young children have at home with parents**. They asked the parents of 274 preschoolers—children who were on average about 4 years old—how often they did different educational activities with their kids.

These activities were split into three categories: code-focused literacy experiences (including singing songs about letters or the alphabet, or teaching kids how to sound out words), meaning-focused literacy experiences (such as discussing the plot of stories or describing pictures), and number experiences (like discussing quantities of things, or pointing out numbers in books or the environment). The researchers also measured parents' attitudes about math.

At the end of their last year of preschool, researchers tested students' early number skills. Among all of the factors researchers asked parents about, only practice with letter-sound interactions positively predicted children's ability to count, calculate, and recognize numbers, when controlling for other factors including socioeconomic status. Number experiences didn't predict this variance. And other code-focused literacy activities that didn't focus on letter sounds—for example, reciting the alphabet—also didn't have the same effect.

Why does learning about the sounds that letters have anything to do with math skills? Some of the relationship can be explained by language ability, said Fiona Simmons, a senior lecturer in the school of Natural Sciences and Psychology at Liverpool John Moores University, and one of the authors of the study.

"Some aspects of [number skills], like your ability to read and recognize numerals, we'd imagine ... to be reliant to some extent on your vocabulary abilities," said Simmons. But in the researchers' statistical models, language ability didn't account for the entire effect.

One possible explanation, said Simmons, is that learning letter-sound interactions gives children the tools to understand abstract symbolic systems—the idea that a printed symbol on a page can stand for something else. If children can understand this concept as it applies to letters and reading, it might be easier for them to apply it to numbers and math.

These findings add more support to the research base that suggests there are benefits to talking with young children about the sounds within words, said Simmons.

"Any activities that early years professionals or teachers of younger children can do to give parents the confidence to engage in these types of informal conversations about letters and sounds ... would be beneficial," she said.

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