

Online training helps preemies

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The researchers investigated how preterm children can be supported with learning. Credit: RUB, Kramer

An international team of researchers has now found that computerized training can support preterm children's academic success. In their randomized controlled study "Fit for School", the researchers compared two learning apps. The project at the University Hospital Essen and at

Ruhr-Universität Bochum was funded by Mercator Research Center Ruhr (Mercur) with approximately 300,000 Euros for four years. Results have been published online as unedited manuscript in the journal *Pediatric Research* on 12 September 2020.

Every 11. baby is born too early in Germany, over 15 million globally each year. Although [survival rates](#) have increased, long-term development has not improved much. At school age, children born preterm often struggle with attention and [complex tasks](#), such as math.

"Preemies need special support," says neonatologist Dr. Britta Hüning of the Clinic for Pediatrics I, University Hospital Essen. Together with psychologist Dr. Julia Jaekel from the University of Tennessee Knoxville, previously at Ruhr-Universität Bochum, she was part of a multidisciplinary team that led the study with Professor Ursula Felderhoff-Müser, Director of the Clinic for Pediatrics I. Their findings are promising and novel, as few intervention studies have ever shown academic improvements for school-aged preterm children.

Two learning apps tested

The study included 65 first graders, born between five and twelve weeks preterm in the Ruhr Region. They practiced daily for five weeks, using the software app Xtramath or Cogmed. Teachers rated their academic progress in math, attention, reading and writing through first and second grade.

The final results: parents and children liked both apps. "The different trainings supported long-term school success to a similar degree," says Julia Jaekel. "However, Xtramath received more positive ratings and led to better short-term academic progress."

In times of increasing remote and online instruction for all [children](#), apps

with documented effectiveness are scarce. Parents and teachers may turn to adaptive apps such as Xtramath for learning at home.

More information: Julia Jaekel et al, Preterm children's long-term academic performance after adaptive computerized training: an efficacy and process analysis of a randomized controlled trial, *Pediatric Research* (2020). [DOI: 10.1038/s41390-020-01114-w](https://doi.org/10.1038/s41390-020-01114-w)

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