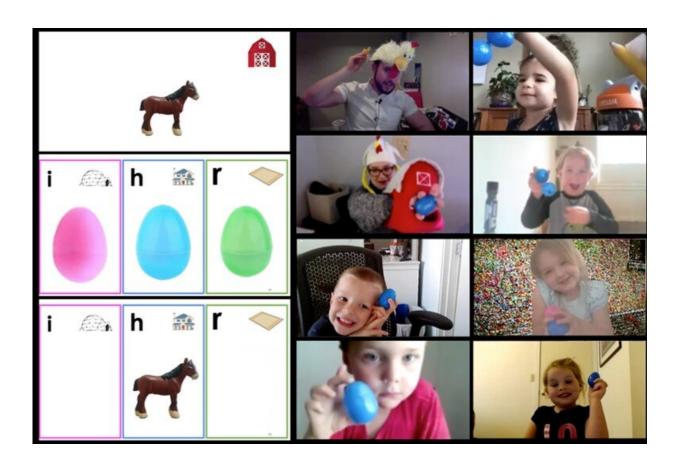


Even in a virtual classroom, preschoolers can gain reading skills

April 11 2022, by Kim Eckart



A screenshot from Reading Camp shows one of the ways the program engaged preschoolers: Teachers wore funny hats, children "voted" for the correct letter and sound with plastic eggs, and each lesson had a theme — in this case, farm animals. Credit: Institute for Learning and Brain Sciences/University of Washington



When the COVID-19 pandemic closed schools nationwide, students of all ages—from high-schoolers in Advanced Placement classes to preschoolers getting the hang of the ABCs—shifted to remote learning on a screen.

And while learning to read in an online setting may seem a tall order, a new study by the University of Washington's Institute for Learning & Brain Sciences finds that children can develop key reading skills in a virtual classroom with other students. Researchers say their "Reading Camp" program demonstrates not only the effectiveness of the approach, but also the potential to reach larger numbers of students remotely, by necessity or by choice.

"Children are ready to learn to read at the age of 5. But the pandemic robbed children of the opportunity for in-person reading instruction. What we've shown here is that an online Reading Camp designed to promote learning socially works phenomenally well. An online camp can be used all over the world by children anywhere, and that is truly exciting," said faculty author Patricia Kuhl, co-director of I-LABS and a UW professor of speech and hearing sciences.

The study, published online March 31 in *Frontiers in Human Neuroscience*, details a two-week reading program, which teachers provided remotely to 83 5-year-olds beginning in fall 2020.

Learning to read involves a series of steps, from recognizing distinguished sounds in a language (phonological awareness), to identifying the names of individual letters and how they sound (letter-sound knowledge), to decoding words and their meanings.

The study finds that the participants demonstrated learning of specific reading skills, such as phonological awareness and letter-sound knowledge, when compared to a control group of children who did not



receive the instruction.



Ahead of the online Reading Camp, each participant was sent a kit of materials, including books, headphones and toys. Credit: Institute for Learning and Brain Sciences/University of Washington

I-LABS researchers, including study co-author Jason Yeatman (now at Stanford University), in 2019 offered a two-week reading summer camp to teach early literacy skills to pre-kindergarteners and measure brain activity before and after instruction. With the onset of the pandemic in spring 2020, researchers decided to adapt the in-person Reading Camp into an online version over Zoom.



Ahead of the remote camp, researchers mailed parents a kit of materials, which included headphones, worksheets and books, as well as Play-Doh, toys and other fun items for use in the lessons. Children used colored plastic eggs from the kit, for example, to "vote" for the right answer in their virtual classroom, rather than raising a hand.

The Reading Camp grouped children into six-person classrooms, each with two instructors trained in the specific skills lessons. Sessions lasted three hours a day, with several breaks, short lessons broken up by activities, and ending with a story time. The classrooms were often broken into even smaller, three-student breakout rooms, each with a teacher to focus the lessons and games.

"This shows that we can actually teach kids online if we're using the correct methodology, keeping them engaged, and they're interacting socially with their peers and teachers," said Yael Weiss-Zruya, a research scientist at I-LABS and the study's first author. "Combining all of this made it successful."

Children in both the Reading Camp and control groups took several standardized and non-standardized tests to assess knowledge of letters, sounds and words. The results showed that the Reading Camp participants improved in all of the reading skills measured, and their phonological awareness and knowledge of lowercase letters and sounds, in particular, more than the children in the control group.

"Frankly, I had my doubts about whether 5-year-olds could learn to read online without a live tutor. But when I saw these 5-year-olds on Zoom laughing and encouraging each other to listen and hold up the right color egg, I was amazed. Their social connections to each other were obvious, and their learning was incredible. They called each other by name and seemed very eager to see each other on the screen," Kuhl said.



Researchers plan to hold additional online reading camps, and to add brain scans prior to and after the camps to evaluate how learning to read affects brain development.

More information: Yael Weiss et al, Can an Online Reading Camp Teach 5-Year-Old Children to Read?, *Frontiers in Human Neuroscience* (2022). DOI: 10.3389/fnhum.2022.793213

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