

Video games can have lasting impact on learning

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Image credit: Openeducation

A computer-based brain training program developed at Yale University helps improve student performance in reading and math—in some cases even more than individualized tutoring, according to a new study published Sept. 12 in *Scientific Reports*.

In a study of more than 500 second graders, math and reading scores on school-administered tests increased significantly more in children who used the [brain training](#) program Activate during the school year than in control classes. The effect on math achievement scores was greater than what has been reported for one-on-one tutoring and the effect on reading

scores was greater than what has been reported for summer reading programs.

The findings illustrate that the benefits of the training, conducted three times a week for a four-month period, extend beyond getting better on the training games themselves and lead to improved learning of material that is very different from that in the games.

"The program increases focus, self-control, and memory—cognitive skills essential for learning," said Dr. Bruce Wexler, professor emeritus of psychiatry at Yale and lead author of the study. "And these are the exactly the cognitive skills affected by poverty, so we believe brain training programs like Activate can help reduce the achievement gaps related to poverty that are seen in schools across the country."

In a second finding from the same study, researchers discovered that doing a five-minute brain warm-up game just before beginning an Activate math or reading curricular content game can increase math and reading performance. Different warm-up games produced maximal "cognitive priming" effects for [math](#) and reading. Cognitive priming with short video games could be more powerful than techniques teachers currently use to create mind-sets to facilitate learning, Wexler said.

More information: Bruce E Wexler et al. Cognitive Priming and Cognitive Training: Immediate and Far Transfer to Academic Skills in Children, *Scientific Reports* (2016). [DOI: 10.1038/srep32859](https://doi.org/10.1038/srep32859)

Provided by Yale University

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