

## Video: New test uses brain's electrical activity to pinpoint reading challenges early

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Children who have difficulty learning to read, in addition to being at risk for depression, also can suffer from increased rates of bullying and can experience poorer relationships with their parents and teachers, according to some child development researchers.

With support from the National Science Foundation (NSF), cognitive neuroscientist Sarah Laszlo and her team at Binghamton University are developing a test designed to diagnose [reading difficulties](#) early on. And, that's critical because studies show many methods now used to help struggling readers become less effective after the second grade.

The test is essentially a computer game, played while the child's brain activity is being monitored by electroencephalography (EEG) that detects [electrical activity](#) in the brain. If a child struggles with any of the answers, it shows up in his or her EEG signals. The researchers read the signals and can tell where a child might be having difficulties.

Laszlo's reading research may also have applications in biometrics, the measurement of people's physical or behavioral characteristics. Biometrics authentication is a common security measure; an example is using a fingerprint to gain access to a mobile device. Laszlo is collaborating with NSF-funded bioengineer Zhanpeng Jin to investigate whether [brain signals](#) are as unique as fingerprints.

Provided by National Science Foundation

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