

Hi,

Did you know that the process of educating a child physically changes the structure of their brain? That's right – teachers (and caregivers!) are brain engineers! The work you do every day can result in the creation of new or strengthened brain circuits for your students.

This knowledge has important implications for reading instruction. Decades of scientific research has shown us that – unlike the process of learning how to talk – reading is not a natural thing for humans to do, meaning we don't simply learn to read through immersion in print. Whereas parts of our brain are designed specifically for speaking and creating meaning from oral language, this is not true with reading. Our brains do not have a single area reserved just for reading (i.e., there is no "reading" part in our brains). Rather, millions of new pathways have to be formed to connect multiple regions within our brain in order for us to be able to read fluently. These pathways are formed via instruction.

Neuroplasticity refers to the brain's ability to adapt. As we learn, new connections are being built between our neurons. We know from brain-imaging studies that students with reading difficulty, including those with dyslexia, may start off with different neural connections and brain circuitry than their peers who are not struggling. Learning to read is one way to build the neural connections that are necessary for reading. And learning to read through targeted and explicit instruction? Even better!

In <u>a study</u> conducted by the University of Texas Health Science Center at Houston, 13 out of 16 children who entered kindergarten with poor pre-reading skills responded well to a year of **direct**, **systematic instruction in the alphabetic principle**, **fluency**, **and comprehension**. Not only that, but magnetic source imaging (MSI) scans of the students' brains found that critical reading areas in their brains were activated and brought into the reading process **for the first time**! Amazing!

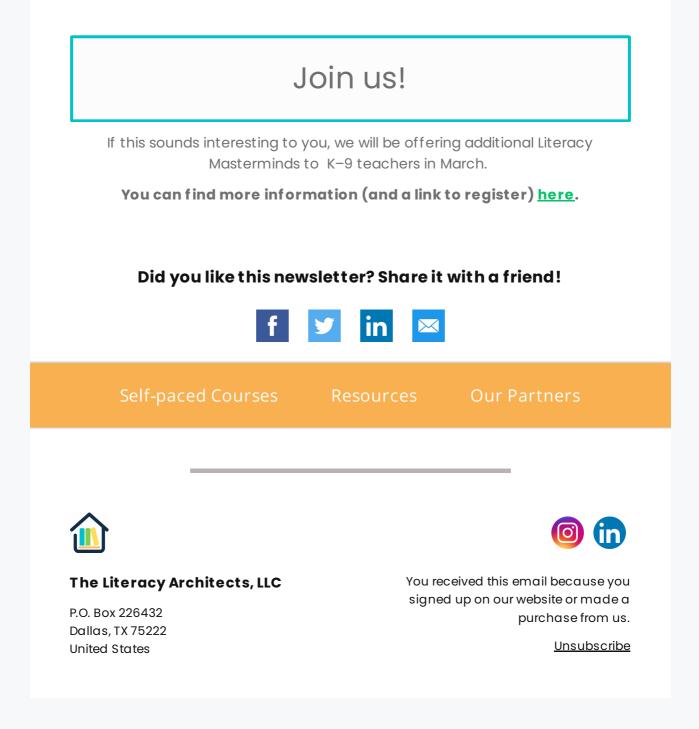
Similarly, a <u>University of Washington study</u> of children ages 7-12 showed that *just eight weeks* of a targeted, intensive reading intervention increased the density of white matter in key areas of students' brains and resulted in more organized "wiring". These students also improved their reading skills by an average of one full grade level!

This is exciting news for educators using evidence-based reading interventions, and also highlights the importance of our work. Through strong professional development, teachers can learn how to design targeted reading lessons that can result in lasting success for their students.



What We're Working On

While we're on the subject of reading intervention, we're excited to share that we have been working with TFA Philadelphia and TFA DC to offer one of our Literacy Masterminds courses: "Accelerating Reading Growth Through Fluency." The course, which began on January 13, is an 8-week PD on analyzing data to plan fluency instruction.



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