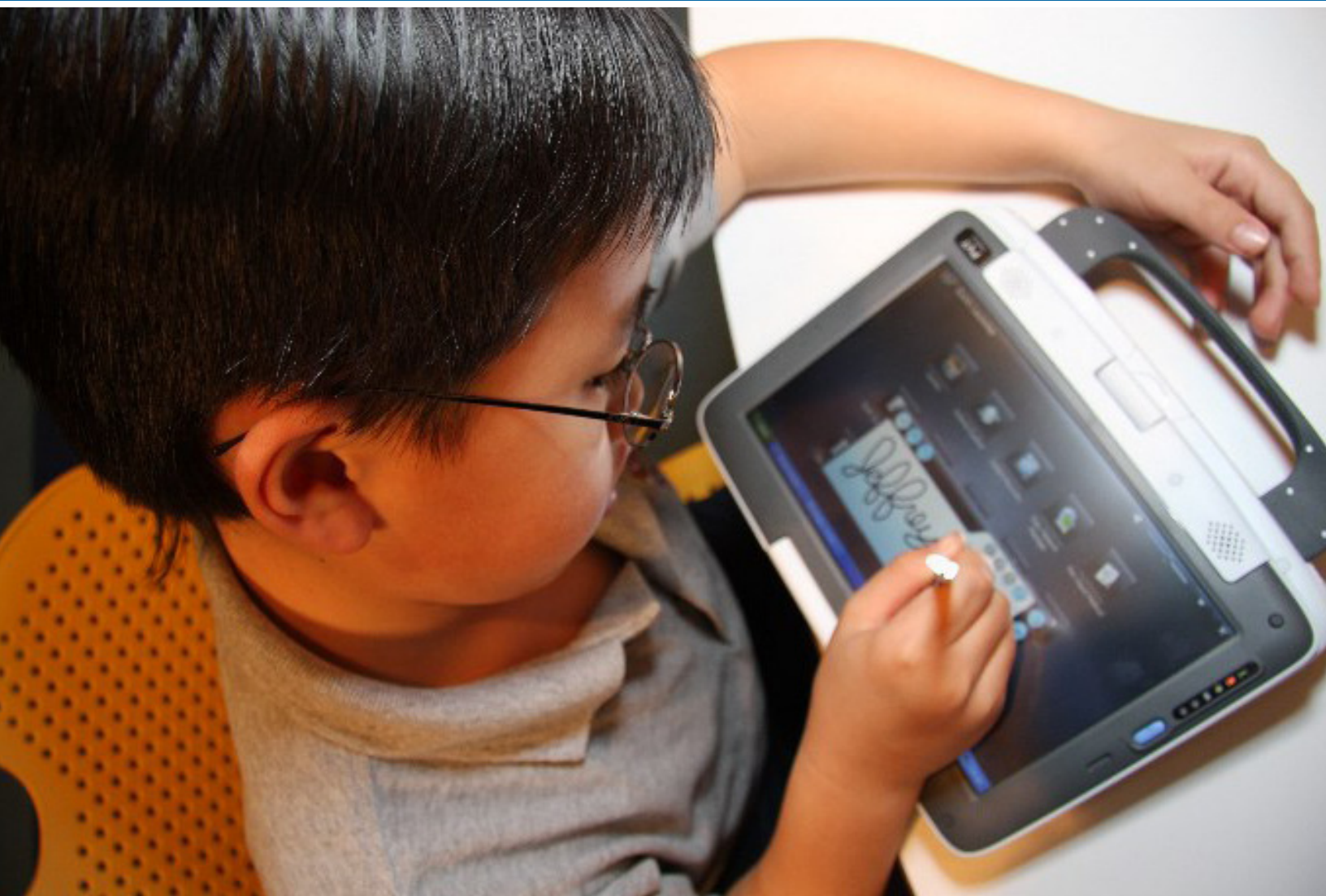


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5 The Future of Educational Technology: *Education 3.0*

3
Letter from Texas ASCD

9
Building Brain Fitness to Improve
Reading and Learning

11
Book Review: Brain Powered Science

Building Brain Fitness to Improve Reading and Learning

by Sherrelle Walker

Educators often hear about the importance of physical fitness for children, but what about brain fitness?

Every teacher at every grade level knows the experience of watching a student struggle to extract information and construct meaning from what they read. Often, this struggle plays out again and again — despite the child's best efforts and the hard work of teachers, reading intervention specialists, and parents.

Like two sides of a coin, there are two sides to the learning process: brain fitness is on one side and teaching & content are on the other. Both sides are critical components of a solid foundation for learning success.

Indeed, students experiencing the same high-quality teaching and research-based curriculum can have very different learning experiences based upon the preparedness of their brain to capture, process, and retain information. The good news is that the brain can change, at any age.

Cumulative breakthroughs in neuroscience research reveal that the human brain can continue to develop and improve its processing efficiency throughout life. This is called brain plasticity, the ability of the brain to change itself.

How does this apply to students who struggle to read and learn from the text they encounter inside and outside school? Neuroscience research shows that reading is a demanding activity, calling for many specific events to take place simultaneously in the brain. Thus, the challenge for at-risk learners is not only solved by good teachers and good curriculum, but by improving the underlying cognitive skills that build brain capacity.



Proven curriculum, when combined with brain fitness exercises to improve brain processing efficiency, can accelerate the learning process. How? There are four key cognitive skills sets — memory, attention, processing rate and sequencing — that when developed together, improve learning and reading. With these skills, a student can effectively:

- Store information and ideas
- Focus on information and tasks, and ignore distractions
- Accurately perceive and manipulate information (e.g. distinguish speech sounds, and identify letter and word forms to create meaning)
- Place the detail of information in its accustomed order (e.g. the order of letters within words or words within sentences)

The strengthening of these cognitive skills results in a wide range of improved critical language and reading abilities, such as phonological awareness, phonemic awareness, fluency, vocabulary, comprehension, decoding, working memory, syntax and grammar. In addition, when students can process more effectively, all other learning activities are accomplished more efficiently, and the dedication of teachers and the investment in other learning programs yield better results. Further, students are more motivated to learn and have better self-esteem.

By exercising their brains and boosting their brain fitness, students can develop the skills to gain knowledge from any text they encounter in any subject — and eliminate the struggle once and for all.

About the Author

Sherrelle Walker is chief education officer of Scientific Learning. She has more than 25 years of experience in education as a teacher, principal, and assistant superintendent for curriculum and instruction, and is a former member of ASCD's Executive Council.

Did You Know?

Did you know that your brain has no pain? This is do to the fact that your brain doesn't have nerves to register pain within itself. It is obvious that there is no need to describe how important your brain is to your survival, however what's not so clear is the many interesting facts there are about the brain. I have put together a list of the most fascinating facts that are associated with the brain.

Top 10 Brain Facts

1. Every minute about 750ml of blood pumps through your brain.
2. Your brain makes up about 2% of your body weight.
3. A human brain is about 75% water.
4. A human brain is made up of 100 billion neurons.
5. A human brain weighs about 1350g.
6. Your brain stops growing at 18 years old.
7. The brain is pink because of the blood that flows through it.
8. The brain has 2 sides. The left side controls the right side of your body, while the right side controls the left side of your body.
9. A newborn baby's brain grows about 3 times in their first year.
10. While you are awake your brain generates about 25 watts of power.