

The Effect on the Brain

Dr. Charles Hillman of the University of Illinois has conducted research to determine the effect of movement on the brain. Two brain scans, shown side by side, illustrate the brain after sitting quietly and following a 20-minute walk. The difference is remarkable, with the latter *far* more “lit up” than the former.

Movement feeds the brain with oxygen, water, and glucose. This is brain food. We would never deprive children of food for their bodies. But when we keep children sitting, we deprive their brains of the nutrients needed for optimal performance.

We Can Relate

Perhaps you’ve had days when you sat at a conference, in a meeting, or on a plane for endless minutes or hours at a time. And perhaps you wondered at the end of those days why you were so exhausted, when all you did was sit.

Imagine if you had been expected to learn something important during those endless minutes or hours. Imagine how impossible it is for the brain to perform optimally under such conditions!

If sitting makes us tired and interferes with concentration, why would we want students to sit *more*?

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Sitting Does Not
Equal Learning



Sitting Does Not = Learning

Most of us were expected to sit – in desks in neat rows – when we were in school, and that experience may have created the belief that learning can only take place when children are sitting still (and quiet, of course).

During my presentations, I often exclaim, “Children do not exist only from the neck up!” It may seem like a silly statement, but too many education policies are based on the idea that a child’s head/brain is the only thing that matters – that the brain and the body are separate entities.

I have serious objections to the notion that learning supposedly comes via the eyes, the ears, and the seat of the pants – when we now *know* that the more senses used in the learning process, the more information we retain. The practice may have been understandable back when they didn’t have the research to prove otherwise. But today we do.

Today we have research proving that:

- The brain is far more active during physical activity than while one is seated.
- The learning brain can only absorb information for a handful of minutes.
- Sitting for more than 10 minutes reduces our awareness of physical and emotional sensations.
- Sitting in a chair *increases fatigue* and *reduces concentration*.

*“When the bum is numb,
the mind is dumb.”*

~ Teacher Dee Kalman



“I lay it down as an educational axiom that in teaching you will come to grief as soon as you forget that your pupils have bodies.” ~ Alfred North Whitehead

Even Standing Can Help

In one study, researchers equipped four first-grade classrooms in Texas with standing desks.

What they found was that, even though the desks were equipped with stools of the appropriate height for sitting, 70% of the students never used their stools, and the other 30% stood the majority of the time.

Moreover, the researchers discovered that standing increased

- attention,
- alertness,
- engagement, and
- on-task behavior.

That’s a win/win for teachers and students!