

# A new Finnish invention based on neurophysiology increases reading speed and reading comprehension in many people

## Neuro Integratin Reading Method by Veli Laurinsalo, Finland

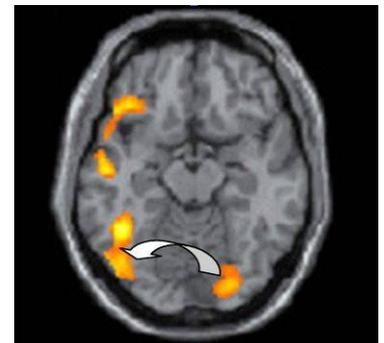
Slow reading is a disadvantage for many who may not have any reading problems, school problems, diagnosis, or other disorders, but reading is slow. Then a person is not fond of reading books and newspapers. When a person reads less, he often also knows less. This can also narrow down the number of data sources and a person becomes dependent on the Internet and TV's information. This can even become a societal problem, as reduced information dissemination allows for one-sided and less knowledge-based information dissemination.

I have approached this problem from a neuroscience perspective.

The starting position in reading is such that good readers have usually right-eye dominance and the reading process in the brain is as shown in the picture.

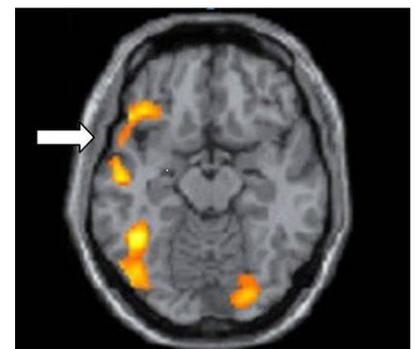
In brain anatomy, the visual cortex is located at the back of the head.

With a good reader, the reading process is perceived in both visual areas of the brain, and more even in the right visual cortex (picture). From there, the information travels with help of rapid nerve connections over the Corpus Callosum, to the left hemisphere, and from there finally to the left Wernicke area, where the read linguistic information read is understood. (the basic Image: Science, Dehaene, et al.)



The visual hemispheres of the left and right differ in that way, that the right is recognizing more characters and the left more detailed information. This results in reading, that the right visual system is perceiving the whole word, as a picture of the word, and the memory is remembering, what linguistic meaning the word character has. The left visual area is more specialized to detailed information of the word, letters, and syllables.

Furthermore, in the brain anatomy, there are the Wernicke brain regions which are located symmetrically on each temporal lobe. The left Wernicke is more specialized in linguistic processing and the right Wernicke is the center of vision-spatial perception, I would say the mapping department. In this there is a big difference between most men and women, namely, women tend to have some linguistic processing also

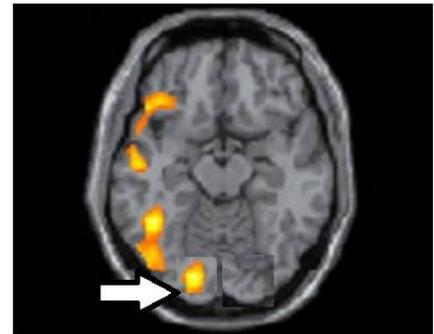


in the right Wernicke, which help girls and women to have usually much better linguistic performance. This explains a lot. But let's continue with reading.

In these situations, where a person has not crawled and crept enough in his or her childhood, it is possible that the networks and connections between the left and right hemispheres of the brain have not been sufficiently activated, and then in the brain is said to exist an invisible wall, and it is called: the Brain Barrier.

It is then possible that even the visual system of the reading process does not receive a rapid visual connection over the brain bridge Corpus Callosum, but the reading relies on the visual system of the left hemisphere.

Now when these three things are combined, 1. Wernicke specializations, 2. visual brain specializations, and 3. the Brain Barrier phenomenon, an understanding of the neural background of slow reading is gained: In other words, when there is no rapid connection between the left and right lobes, the brain find always an alternative, next best path, and it is left visual cortex, its memory and association areas, and from there to the left Wernicke, that is, to the area of linguistic understanding and comprehension brain area.



The problem here is the fact that the left visual area is more specialized to detailed processes, i.e., the word details as letters and syllables. The word is studied, familiar syllable pairs are searched for, and eventually, this information opens up then in the left Wernicke area, where the linguistic content of the word is realized. The main problem is, that the word recognition process with a detailed study of the word is slower than it would be with the right visual whole-word recognition process.

This left visual area-based reading also explains the phenomenon that many slow readers are left-eye dominant, i.e., the left eye is conductive. Thus, because the poor integration between the hemispheres of the brain affects poor visual connections, the left eye has then better contact to the left visual cortex than the right eye would have, the left eye dominance develops.

Slow reading then also affects memory, as short-term memory is, as the name implies, very short-lived. This then makes it difficult to remember, because the short memory's time window closes before the slow reader has reached the end of a long sentence or paragraph.

Well, so the theoretical model is ready, but how would the problem be solved?

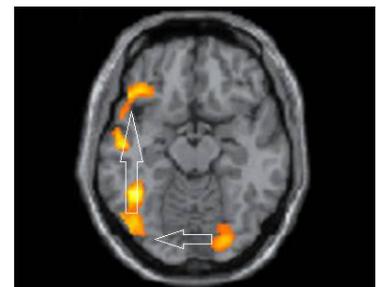
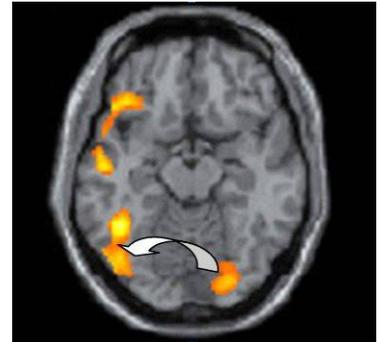
## Neuro Integratin Reading Method

As I mentioned at the beginning, for people who have not crawled and crept enough in childhood, it is possible that the extensive contact networks of the left and right hemispheres of the brain have not been sufficiently activated. So the Brain Barrier phenomenon has emerged. They can especially benefit from this solution to the problem, but the practice now introduced can possibly improve the speed of many other readers. It is worth trying.

The physical progression of the training consists of three stages.

1. First, open the connections between the hemispheres of the brain with active training, i.e. remove the Brain Barrier.
2. Force the brain to read with the whole-word method, not the previously used detail processing.
3. Practice this for 3-7 days to get a new operating system from it and use it actively so that these new nerve pathways do not wither away.

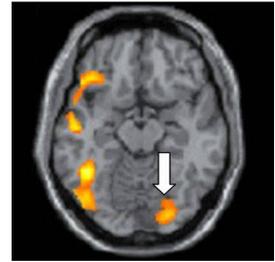
The picture shows what the practice aims to do: The visual process of reading is shifted from left to right, that is, the reading that processes the perception of the whole-word recognition process.



### Here's how it works in practice:

1. Sit in front of a computer screen, for example. Open some plain text, such as a newspaper article, and magnify the text, so that you can easily read it.
2. Open the Brain Barrier: Make slow cross-movements for about 5 minutes, e.g. left hand and right foot move slowly and at the same time, e.g. up and down, or sideways, or forward - backwards, or make circles, etc. And the same always alternately with one pair of hands and feet, and always with crossed pairs.
3. Now the Brain Barrier is opened, and reading training begins. Still make slow, for example pushing movements, which fits well under the table, and at the same time start reading the text on the screen so that you always look in the middle of the word, that is, the character of the word, and move on to the next word after figuring out the previous word.

So now you're using the right visual whole perception technique for perhaps the first time in your life. So the fairway is now open and you can read whole words, but this must now be practiced so that it develops and remains as a permanent process. Now do this exercise for at least 10 minutes, and repeat this several times.



Then when you read a book or newspapers, for example, start actively using this whole reading method, where you just wipe the eyes over the words without looking for details, i.e. you no longer use that previously slow technique of the left visual detailed reading process. Now you are learning the whole-word-reading technique supported by the right visual area and making it a new operating system in your brain.

You will find that you can easily multiply your reading speed and your memory will improve at the same time.

So you can always learn something new, regardless of age.

Also check out the FinnSensio Developmental Training Program, a training program that improves learning, concentration, and motor skills.

<https://www.sensomoottori.com/in-english>

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