

# Aphasia Insights!

September 2019  
Volume 1, Issue 11  
September 24, 2019

“Intensity is clearly an important factor in aphasia rehabilitation, as reviewed in Raymer et al (2007).”

Kleim J, Jones T. (2008). Principles of experience-dependent neural plasticity: Implications for rehabilitation after brain damage. *Journal of Speech, Language, and Hearing Research*, 51, 225-239.

Stroke Educator, Inc. is committed to educating the wider public about stroke and the 50 state “*Aim High for Aphasia!*” Aphasia Awareness Campaign.

Stroke Educator, Inc.  
541 Domenico Circle  
St. Augustine, FL 32086  
207-798-1449  
[tbroussa@comcast.net](mailto:tbroussa@comcast.net)  
[www.strokeeducator.com](http://www.strokeeducator.com)

## Intensity Matters! Principles of Experience-Dependent Neural Plasticity.

By Tom Broussard, Ph.D.

Intensity is one of the ten principles of experience-dependent neural plasticity. Neural plasticity is the adaptive capacity of the central nervous system to change or alter the structure and function of the brain. The principles of experience-dependent neural

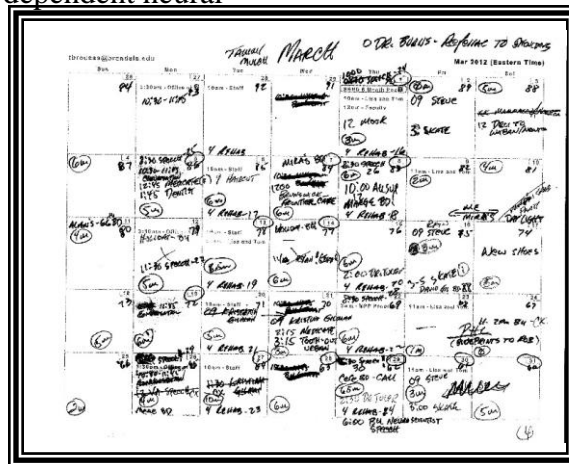
plasticity drive the learning for both the damaged and intact brain (Kleim, 2008).

I had my stroke on September 26, 2011 and woke up two days later without knowing what had happened. My body was fine (as far as I knew) but I didn't know that my language was damaged. It took time for me to realize that I had problems with my language. My speech therapy started a month after my stroke and that was the beginning of my aphasia recovery.

When I arrived at my first session, I was told that 30 sessions has been approved. The sessions were 30

minutes each, twice a week.

Basically, it was an hour a week of therapy for fifteen weeks. After a couple of sessions, I started to ask my therapist about the context of my recovery. I don't know what I actually had said to her, but I think she got the gist of what I meant. I mentioned that conversation (and the word, “context”) in my diary. At the time, I thought that the diary looked fine. It wasn't until months later that I became aware of my writing and realized how bad my writing had been.



But regardless of how good or bad my writings had been, I realized that one hour of any kind of therapy was probably not enough (not that I knew anything about what *enough*

should be). But I did spend a long time thinking about what I should do with the remaining 39 hours of the week.

It has always been my habit to keep track of my life. With nothing else to do (therapeutically anyway), I started keeping track of my life again. I kept my calendar with doctors, SLP, OT and PT appointments, recorded miles walked, breakfast receipts with friends, gas receipts, and movie tickets. I kept my diary and used it

almost every day. I recorded my thoughts on my walks with my iPhone. I took pictures of traffic signs, schools, churches and store fronts as well.

After days, weeks and then months of regular activities, my twice a week sessions got lost in the crowd with all my new activities. As months went by, I got a sense that my language had improved. But I still didn't know how that happened. I did all of those things to occupy myself in the absence of any confirmed therapeutic activities.

It was only after years of reading (once I could read) and writing (once I could write) and speaking (once I could speak) that I came to understand that the active verb of *trying* to read, *trying* to write, and *trying* to speak well were the active ingredients of neural plasticity. *Trying* and the effort that came with it were the keys to improvement.

I came to understand that doubling one hour of therapy to two meant that the activities were twice as intensive. When I started all of my new activities, I had no idea if they were therapeutic or not. I didn't do it for that purpose.

But I wished that I had been expressly told the reason for doing those things. I am sure that I had been told that conventional speech therapy would help me with my language. But it was not the same as informing me (and all the rest of PWAs) that one hour a week is helpful but still not enough to sustain the improvement required

of a significant amount of effort on a variety of activities comprising the principles of neural plasticity including intensity.

That meant that two hours of work were twice as intense. Three hours of work meant they were three times more intense. I did 40 hours a week with my own activities. I imagine that my activities were 40 times more intense than the one hour a week with speech therapy. Intense treatment (with several hours a day or week) enhances the recovery as a basic tenet of language rehabilitation (Schuell, Jenkins, & Jimenez-Pabon, 1964).

Intensity and repetition both matter immensely but more than that, being aware of the reasons why a person with aphasia (PWA) should *do* those things is paramount.

A PWA has to be told that improvement can only come (if it comes at all) as a result of *long-term, consistent, and intensive practice both before and after speech therapy had been finished* (Bhogal, 2003, Raymer et al, 2008).

*Intensity matters!*

Kleim J, Jones T. (2008). Principles of experience-dependent neural plasticity: Implications for rehabilitation after brain damage. *Journal of Speech, Language, and Hearing Research*, 51, 225-239.

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Signed: *The Johnny Appleseed of Aphasia Awareness.*