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NHLP Summary and Essay

Neurons, what are they good for?

Why do we learn? All throughout mankind there has always been questions on the subject of learning and the brain. Dr. Smilkstein has researched, wrote about and understood, how the natural human learning process happens, what it is similar to and what affects it and how.

According to Dr. Smilkstein's research on the brain's learning process she has come to the conclusion that almost every person in the world learns the same way, through five to six stages that she calls the Natural Human Learning Process (NHLP). The first stage is a simple one to understand, because everything that someone does has to have it, motivation, which can be driven from anything from wanting to have fun to being expected or being forced to learn. The next one is to begin practice of that skill, through trial and error and/or research to even learning through other people's experiences, which leads to advanced practice, like repetition of something that works to even focusing in on a particular part of that skill. Leading to the next stage, skillfulness, which can show itself through praise from others to even seeing or feeling

success. Why not stop once knowing you are skilled? Is it because it feels good to be successful, or is it because the motivation is still driving a want to master the skill, maybe even both. Once that question is answered the next stage that can start, refinement begins, because improvement or refinement brings more success and praise and it can become a more pleasurable experience. Eventually mastery can happen creating recognition from peers to wanting to share the knowledge of being successful, like knowing what Smilkstein knows (Smilkstein Chap 2).

By now knowing about Dr. Smilkstein's research I have come to believe that my expertise in playing video games started all by my motivation to learn how to play and become better at playing. The first video game I remember wanting to play was Sonic for the Sega Genesis, like my brother, whom sparked my ambition to play video games. Once the spark was ignited by watching how much fun my brother was having I too wanted to have fun like he was. While my brother was at school or playing with his friends I would take the opportunity and play any game I could get to so I could practice and show him my skills. It wasn't until I was six that my dad bought me my own games to play, which I beat within the week while my brother was at school. Once my dad realized I was getting good at playing video games he started to buy co-op and/or competitive multiplayer games, which allowed me and my brother to play games together, but he was always better than me and would beat me over and over again. Although he would beat me and would play more than me I learned through watching him and his friends. The more I watched and stayed back allowed me to secretly refine my skills more and more until I was able to get to the point where my skills were able to make my brother tell his friends that he and I were on the same level. Although my skills at playing video games are very refined or even close

to mastery, for some people, I have come to believe that I am not a master at video games nor will I ever be, but I will be able to understand how neurons work and what they are similar to, which will help understand the NHLP.

All throughout human history humans have been around trees, so when humans were able to finally see that the most powerful cells in the body looked physically similar with that of a tree they compared the two. When humans are born, the neurons looks very small and lonely and only starts with a soma, which is like the seed that starts the tree. But very soon neurons start to grow an axon, like a trunk of a tree, so the cell can talk to other neurons and further knowledge. Eventually other neurons will start to fire electro-chemicals out of axon terminals to other cells which capture, and “read” the electro-chemicals through the dendrites, which look visually similar to leaves or branches on a tree. But sometimes things want to hurt neurons and will go after the axon to get to the soma and destroy the cell, luckily the neuron grows a myelin sheath to protect the axon from destruction, to allow synaptic firing of electrical-chemical impulses to other neurons, which creates growth of the original neuron, but also with others (Smilkstein Chap. 3).

Throughout my time researching the NHLP I learned about how neurons are very similar to a lot of different things in our life. But the closest object when comparing the synapses or synaptic gaps; areas between a dendrite and an axon terminal where firing of endorphins, or chemicals created by the body; would be a spark plug, which is a device created by humans to create sparks to ignite fuel to power mechanical vehicles or devices. A spark plug needs similar

sources to activate like a neuron, like fuel; which could be made of gasoline and oxygen; and a conductive surface to spark across to ignite the fuel and oxygen. A neuron requires a chemical stimulant; endorphins, like noradrenaline which activates a need to “fight or flight” inside of us, which creates stress and even depression in serious cases, but it mostly just impedes synaptic firing halting logical thinking; to fire and allow thinking and learning to occur.

When dealing with learning and the brain, you can find that a lot of studies show that emotions can affect the learning process, and in some cases even shut it down. This is due to the fact that emotions are forces that occur when noradrenaline or norepinephrine is used in neurons to create a “fight or flight” mode where your brain will stop critical thinking and revert to a simple activity of surviving. For some reason noradrenaline is sometimes used when under stress, be it “emotional” or “physical.” Which causes learning to halt, unless you can overcome emotions.

This shutdown of the brain has happened to me on many occasions, most recently was my last writer’s block during the night of 2/10/16 I could not think of how to write this paper. I didn’t start writing till the following morning before class. I believe that the writer’s block happened because of the stress of other class work and my own personal life, which can manifest itself to a large degree of anxiety creating my stress and shutting me down and causing me to have to overcome it somehow.

I will overcome stress and writer's block by using certain "certified" strategies that can help overcome problems, with a short acronym of SOLVED. I can also make use of a way to develop self-discipline in my time management skills, and how to beat my problem with completely work on time.

Works Cited

Smilkstein, Rita. *We're Born to Learn: Using the Brain's Natural Learning Process to Create Today's Curriculum, 2nd Ed.* Thousand Oaks, Cal.: Corwin, 2011.