The Neuroscience behind the Happy Brain Chemicals as related to Teaching and Learning

Our brain regulates our behavior. Nothing we do is random. Every move, thought, mood, feeling, and many other functions are directly related to our brain. As it turns out, there is a pattern related to the chemicals produced in our brain. In order for us to teach and learn at the highest brain capacity, we can follow certain actions to ignite positive energy that will in turn become a breeding ground for teaching and learning.

The following statement is going to be difficult to digest, especially for those who teach: we cannot teach anyone anything. We can, however, lead them to knowledge. To break it down and simplify this statement, learning happens at will. It should be our goal as educators to activate the free will in learners. In order to do so, we should consider activating the happy brain chemicals in order to create a positive and inviting teaching and learning space where learners are receptive to new knowledge and learn at their will.

Teaching professionals should consider the following scientific knowledge about the human brain and utilize the available actions to activate those happy brain chemicals prior to entering the classroom, regardless of delivery modality (face-to-face, online, remote, hybrid, etc.).

Oxytocin is known as the love hormone. It is activated in the human brain when we play with a pet, play with a baby, hold hands, hug, or pay someone else a compliment. A good example of activating the love hormone prior to entering the classroom would be paying someone a compliment. The compliment must be genuine and from the heart. In other words, it cannot be forced or fake. Consider complimenting complete strangers. If you get a coffee before class and you noticed the barista's hair color is unique, pay them a compliment. It costs you nothing, and it will activate oxytocin in your brain as well as the barista's brain. A win-win situation.

Dopamine is the reward chemical. It is activated when we finish a task, eat nutritious food, celebrate accomplishments regardless of how big or small, and engage in self-care activities, such as getting a haircut, getting a manicure or a pedicure, trimming or styling a beard, etc. If possible, consider options to activate dopamine prior to starting a class. It could be as simple as eating a nutritious salad for lunch just before class start time.

Endorphins is the pain killer brain chemical. Endorphins are activated when we laugh, exercise, eat dark chocolate, or engage in aroma therapy. Consider aromatic scents in your office. This could benefit you as well as other visitors that show up in your office. Laugh as much as you can. Laughter is good for us! Additionally, adopting an exercising routine will result in endorphin kicks, so exercise when you can and try to exercise regularly and before class time if possible.

Last but not least is serotonin. Serotonin is the mood stabilizer. All humans have mood swings to a certain extent. In order to stabilize our mood throughout the day, try to engage in daily meditation, running or jogging, take a walk in nature especially when the sun is out and it is not too hot. Swimming also activates serotonin. If possible, engage in a serotonin-activated activity prior to class, especially if you are feeling you are having a rough day, which we all do at times.

The Happy Brain Chemicals

Oxytocin: The Love Hormone

- Play with a pet
- Play with a baby
- Hold hands
- Hug
- Pay a compliment

Endorphins: The Pain Killer

- Laughing
- Aroma therapy
- Watch a comedy show
- Dark chocolate
- Exercise



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Dopamine: The Reward Chemical

- Finish a task
- Self-care activities
- Eat nutritious food
- Celebrate accomplishments (big and small)

Serotonin: The Mood Stabilizer

- Meditation
- Running / jogging / riding
- Sun
- A walk in nature
- Swimming