**Active Learning,**

**Learn Actively**

**Setting Students Up For**

**Success**

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**Making a Good Brain Great**

Dr. Daniel Amen M.D.

**Prefrontal Cortex:** houses the ability to learn from mistakes, make plans, match our behavior over time to reach our goals; it is the part of the brain that as Jiminy Cricket says “is the still small voice that helps you decide between right and wrong”

**Anterior Cingulate Gyrus:** helps you feel settled, relaxed and flexible; the brain’s gear shifter; is responsible for cognitive flexibility; shifts attention; cooperation; implicated in “future oriented thinking” such as planning and goal-setting

**Deep Limbic System:**  sets a person’s emotional tone; less active = positive, more hopeful state of mind; provides the filter through which you interpret the events of the day; stores highly charged emotional memories

**Basal Ganglia:** integrates feelings, thoughts, and movements; sets body’s idle or anxiety level; high basal ganglia is associated with conflict-avoidant behavior; anxiety and physical stress symptoms such as headaches, intestinal problems, and muscle tension

**Temporal Lobes:** involved with language, reading social cues, short-term memory, getting memories into long-term storage, processing music, tone of voice and mood stability; recognizing objects by sight and naming them; spiritual experience and insight

**Cerebellum**: involved with processing speed, thought coordination, how quickly cognitive and emotional adjustments are made; motor coordination, posture, poor handwriting, problems organizing, sensitive to light, noise, touch, clothing, being clumsy or accident prone

**The best sources of stimulation for the brain are:**

**physical exercise, mental exercise and social bonding.**

* **Stimulation makes brain cells grow.**
* **Repeated muscle activity is the single most important element of brain development.**
* **The more the brain is stimulated, the more it will increase in**

**size, processing speed, connections and new synapses.**

Movement breaks increase glucose and oxygen via blood flow, stimulate new brain growth, improve cognitive function, facilitate higher levels of brain function, improve attention span, focus and processing speed, decrease sleepiness and fatigue.

* Dopamine helps to control the brain's reward and pleasure centers.

Dr. Daniel Siegel

**Electronics and The Brain**

**All screen activities provide unnatural stimulation to the nervous system and can cause adverse effects.**

Electronic devices act as stimulants. They put the body into a state of high arousal and hyperfocus followed by a crash with irritability and poor executive function being the hallmarks.

**Electronic Screen Syndrome**

* Irritability; becomes irritable when told it’s time to stop playing video games or get off the computer, has dilated pupils after using electronics
* depression
* rapidly changing moods
* excessive or age-inappropriate tantrums, full-blown rages
* low frustration tolerance, meltdowns over minor frustrations
* poor self-regulation
* disorganized or oppositional-defiant behavior
* poor sportsmanship
* social immaturity, trouble making or keeping friends because of immature behavior
* poor eye-contact, has a hard time making eye contact after screen time or in general, attracted to screens like a “moth to a flame”
* insomnia,
* learning difficulties
* poor short-term memory
* others around them have to “walk on eggshells”
* revved up a lot of the time
* seems wired and tired but can’t sleep or sleeps but doesn’t feel rested
* seems lazy or unmotivated and has poor attention to detail
* content is not as important as amount; interactive screen time causes more dysfunction than passive

The amount of time spent on a screen is important since all screen activities provide unnatural stimulation to the nervous system.

Interactive screen-time is worse than passive. Interactivity is what keeps the user engaged by providing choices, immediate gratification and a sense of control.

Interactive screen-time: user regularly interfaces with a device

Passive screen time: user watches on a screen from a distance

**Both active and passive screen time are associated with**

**attention issues, slower reading development, depression,**

**sleep problems, diminished creativity, and irritability**.

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