

The Ten Things Every Teacher Needs to Know
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The Limbic System

Meaning in School

Most popular subjects in school?

The typical cutbacks?

The problem?

What are their interests?

Brain friendly learning?

Implications to the most powerful learning?

When curriculum is personally meaningful

First, what can teachers learn from companies?

When you find their interests meaningful

Controlled stress environment

Amygdala and hippocampus

The hippocampus

When neurotransmitters enter the synapse

The feel good neurotransmitters

Dopamine

Endorphins

Serotonin

When stress neurotransmitters are released

The stress neurotransmitters

To counter effects of stress neurotransmitters

It is imperative that we have methods to moderate our stress

Structural damage

Interferes with neural transmission

Immune system

Sleep and nutrition

There will be no relief from stress unless we sleep and have nutrition

Obesity and children

Protein & Carbohydrates

Certain foods will increase feel good neurotransmitters and relieve stress

Movement

Movement is fundamental to the very existence of a brain

In his early life it swims like a tadpole

What will damage/ age the brain?

How do we stop digesting our own brain? New neural growth!

Increases blood flow to the brain

Research on exercise

Exercise and reading comprehension

Demands on the brain brings a recovery period

And it happens quickly

Dance Dance Revolution!

www.pe4life.com or www.pe4life.org

Huge sample size

When the overall fitness score was compared

Why do we have to learn in motion?

2007 test of cognitive flexibility

Executive function

Cross-lateral movements

Cross lateral movement

The results

There is a direct link from the cerebellum to our pleasure centers

Music

Why is music necessary?

Music attaches to memories

Improves learning

Physiological properties of music help to release feel good neurotransmitters

Music affects heartbeat, pulse rate, blood pressure and respiration

Neurological peak occurs at the slow frequency

UCLA professor Dr. Catterall led

Music and sound effects impact the brain's attention circuits

One of the most promising findings

Elementary school children learn better

Music in reading instruction

Low achieving readers learn to read

Hands on Projects

Instinct and human beings

Hands on and the brain

For memory, must perceive meaning

Active learning is long term

Field trips connect today with tomorrow

Gender specific strategies

A normal year of growth

Language Usage

Reading Scores

Special Ed Growth

Kindergarten used to be about socialization

Structural differences in the brain

Boys have a larger amygdala

Schools disregard boy's innate preference of play

Strategy

Assessment

Long term projects are the most meaningful

Community

What dictates achievement?

5th 7th and 9th grade it decreased

Compassion