

Benefits to a More Brain-Based Learning Approach:

Learners understand things better, so you don't have to repeat yourself.

You'll reach more types of learners, so they get less frustrated.

You'll have more fun teaching, so you stay energized.

Students will be more engaged and cause fewer problems.

Learners will learn more, feel more confident.

Students will remember things longer, feel more self-esteem.

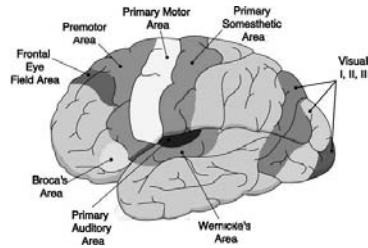
Students will be more intrinsically motivated for school.

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The Key Principles of Brain-Based Learning

1. ***Each brain is totally unique.*** It develops on different timetables, normal brains can be as much as 3 years apart in developmental stages. Do we or can we still hold each age or grade level learner to the same standards?
2. ***Stress and threat impact the brain in many ways:*** they reduce capacity for understanding, meaning and memory. They reduce higher order thinking skills. Learners are threatened by loss of approval, helplessness, lack of resources and un-meetable deadlines.
3. ***Emotions run the brain.*** Bad ones flavor all attempts at learning. Good ones create an excitement and love of learning. More importantly, we only believe something and give it meaning when we feel strongly about it.
4. ***The neocortex is strongly run by patterns, not facts.*** We learn best with themes, patterns, whole experiences. The patterns of information provide the understanding learners seek.
5. ***We learn in a multi-path, simultaneous style.*** It is visual, auditory, kinesthetic, conscious and nonconscious. We do most poorly when we “piecemeal” learning into linear, sequential math facts and other out of context information lists.
6. ***Our memory is very poor in rote, semantic situations.*** It is best in contextual, episodic event-oriented situations. How can we use more of our best type of memory?
7. ***All learning is mind-body.*** The learner’s physiology, state, posture, breathing all affect them. We will want to better manage their states and teach them how to manage their own states.
8. ***Feeding the brain.*** Our brains are stimulated by challenge, novelty and feedback in our learning environments. Creating more of these conditions is critical to brain growth.
9. ***Ritual is a way for the reptilian brain to have a productive expression.*** More positive and productive rituals can lower the perceived stress and threat.
10. ***The brain is poorly designed for formal instruction.*** It is designed to learn what it needs to learn, to survive. It can usually learn what it wants to learn when choosing, obviously. By focusing on learning, not instruction or teaching, we can allow the brain to learn more.
11. ***Cycles and rhythms.*** Our brain is designed for ups and downs, not constant attention. The terms “on” “or off task” are irrelevant to the brain.
12. ***Assessment.*** Most of what is critical to the brain and learning cannot be assessed. The best learning is often the creation of biases, themes, models and patterns of deep understanding.

GETTING THE BRAIN'S ATTENTION

Key is Contrast...

Anything That Is a Change From The Existing Status Quo...

The Primary Design of The Brain is to:

Seek Novelty

states of curiosity, interest, suspense, awe
Confusion, surprise, ah-ah!

Gain Pleasure

states of anticipation, hope, security, fun,
self-confidence, acceptance, satisfaction

Avoid Harm

states of anxiety, suspicion, worry, fear
ridicule, embarrassment, hurt

One good definition of **MENTAL TOUGHNESS** is:
Maintaining control over emotional states and energy levels.

Use the chart below to help identify and understand various
 emotional/energy states and their dynamics
ENERGY INTENSITY/EMOTIONAL STATES MATRIX

High Intensity

<p>HIGH POSITIVE Energy without Tension</p> <p>Excited Enthusiastic Lively (having' big fun) Inspired Cooperative *****</p> <p>Highly motivated Confident Determined Focused on the <i>NOW!</i> DRAINS YOUR BATTERIES (IPS - Ideal Performance State)</p>	<p>10</p> <p>9</p> <p>8</p> <p>7</p> <p>6</p>	<p>HIGH NEGATIVE Tension with Energy</p> <p>Angry Anxious Frightened Frustrated Vengeful *****</p> <p>Temper tantrums, choking Mentally and physically debilitating Feelings can be harbored for very long periods SHORT-CIRCUITS YOUR BATTERIES (self-destructive)</p>
Pleasant		Unpleasant

<p>LOW POSITIVE Neither Tension nor Energy</p> <p>Serene Relaxed Peaceful Recuperating Weary *****</p> <p>Little Desire Halfhearted attempts a danger <i>This is where you</i> <i>regain your composure</i> CHARGES YOUR BATTERIES (absolutely necessary)</p>	<p>5</p> <p>4</p> <p>3</p> <p>2</p> <p>1</p>	<p>LOW NEGATIVE Tension Without Energy</p> <p>Depressed Bored BURNED OUT Annoyed Irritated *****</p> <p>Constantly whining Easily overwhelmed Often may not even make attempt Substance abuse often leads here UNHOOKS YOUR BATTERIES (incredibly contagious)</p>
	Low Intensity	

PHYSICAL MANIFESTATIONS OF THE STRESS RESPONSE

(The fight or flight syndrome)

What happens to us when we get angry, frightened, frustrated or too anxious?

Increased heart rate - not good, leads to feelings of uneasiness.

Increased blood pressure - same as the above.

Increased muscle tension - robs you of some of your quickness, speeds up fatigue.

Increased blood flow to large muscle groups - only positive factor.

Increased perspiration - the body is trying to cool itself.

Blood flow is reduced to the hands and feet.

Digestion halt - blood flow to stomach area greatly reduced, in extreme conditions, stomach evacuates itself (vomiting).

Breathing becomes quick and shallow - decreases supply of oxygen to the brain and muscles, quickens rate of mental and physical fatigue.

Toxic focus - we focus very tightly on the person and/or event that triggered the response and will remain so until we regain control. We lose perspective; we forget our goals and our jobs. We can make mistakes we might not otherwise commit. We can get real stupid.

The stress response comes from instinct. Our job is not to prevent it from ever occurring, but rather to deal with it effectively. Lessening the negative impact by shortening its' duration is one good way. Also channeling the tremendous amount of energy present towards the task at hand is a great idea. Having awareness of our natural responses and exhibiting and experiencing better personal control can lead to increased self-image and self-esteem, and of course more confidence.

Remember H.A.L.T.S. These conditions rob us of our resolve.

Don't allow yourself to get too:

HUNGRY - watch blood sugar levels, drink plenty of water.

ANGRY

LONELY - poor personal relationships detract from our performance.

TIRED - proper rest and conditioning are mandatory.

SURPRISED - Don't be caught off guard by situations you could have predicted.

Use visualization if necessary to practice a better response to common occurrences with which you are not presently dealing with well.

All Behavior is “State Dependent”

States are Simply
The “Mind-Body Moment”
Made up of Your:

Thoughts

Pictures (visualize)
Sounds (internal dialogue)
Feelings (kinesthetic)

Physiology

Eye Patterns / Breathing Patterns
Posture / Gestures
Temperature / Digestion, Etc.

Relevancy:

Connect the learning with the learner’s personal life
before you connect it academically or professionally



Their Personal Life:

Creates Immediate Connections
Is Often Emotionally Laden
Verifies It by Past Experience
Will Reinforce the Message

Inappropriate Emotions

**Rage / Aggression / Violence / Abuse / Insult
Hostility / Sarcasm / Impulsive**

Healthy Emotions

**Frustration / Worry / Fear / Anxiety / Tension
Stress / Excitement / Joy / Bliss / Optimism / Hope / Love
Disappointment / Discouragement / Rejection / Sadness / Grief**

Lack Of Emotions

**Apathy / Disconnected / Hopeless
Resignation / Deep Despair / Suicide**

Emotions

In Excess, Can Cause Problems
At Appropriate Levels, They can:

**Activate Long Term Memory
Tell Us Something Is Real
Taps Into Our Feelings
(Like Love Of Learning)
Help Us Make Faster Decisions
Help Us Believe Something is True
Can Help Us Make Better Quality Decisions**

In what ways, can we help our learners stimulate appropriate
and productive emotions for learning?

The Super Foods Diet

Alertness, Thinking & Memory

- To Boost your alertness and mental performance, include a natural source of tyrosine: eggs, fish, turkey, tofu, pork, chicken and yogurt.
- Ginkgo biloba extract is known for increasing the flow of nutrients and oxygen to the brain. Available at fitness and natural health food stores. Many now carry a whole product line of neural or neuro-supplements. Experiment with them.
- Eat foods low in refined carbohydrates—it promotes relaxation.
- Avoid high sugar & high carbohydrates combo—sugar is utilized differently by the brain when “carried in” with protein
- Eat carbohydrates with protein for a better nutrient balance to the brain.
- Eat multivitamin supplements, especially the B vitamins. Thiamin may be able to increase visual acuity, reactive time and fine motor control.
- Lecithin, found in egg yolks and wheat germ can boost memory
- Folic acid is found in leafy green vegetables, beef liver and beans.
- Selenium improves memory and concentration. It is a mineral found most concentrated in seafood, whole grain breads, Brazil nuts and white meat tuna.
- Boron supplements improved mental activity. The trace mineral boron is found in broccoli, apples, pears, peaches, grapes, nuts and dried beans.
- Use zinc supplements for short term memory and attention span. Better yet, zinc can be found in fish, beans, whole grains and dark meat turkey.
- Drink pure, fresh water. Brain specialists recommend 8-12 glasses per day.
- Eat iron-rich foods like dark-green vegetables, meat, beans & fish for improved attention, memory, perception and visual-motor coordination.
- Subjects on a diet of polyunsaturated fats learned 20% faster than those on a saturated fat diet. They also retained the information longer.
- Supplements to take? Multi-vitamin/minerals, 2 gms. Vitamin C, extra antioxidants, anti[free radicals, Super Choline/DMAE supplements.
- The brain runs best on a “nibbling diet”. Studies showed increased learning and performance when subjects ate from 5-9 small snacks or meals per day.

Summary:

Breakfast: Eat fresh fruit, juices & boiled eggs plus multivitamin supplements. Snack on fruits, nuts & drink plenty of water

Lunch: Eat dark green salad. Snack on fruits, pure yogurt, nuts & drink plenty of water

Dinner: Eat pasta or potatoes, brown rice, beans, lean meats, plus dark green vegetables & multivitamin supplements. Make dessert an exception and drink alcohol in moderation.

Disclaimer: The author is not a medical doctor and this is not intended to be medical advice. Consult your physician before making changes in your overall diet or lifestyle. Author cannot assume liability.