THE TRAUMA INFORMED CLASSROOM
MOVING STUDENTS FROM SURVIVING TO THRIVING

ESEA 2020, ATLANTA, GA
Charleston Southern University
Distinguished Professor, Author, Radio Host

**Differentiated Pathways of the Brain and Rich Brain, Poor Brain**

**Breaking Brain Barriers and Brain Tips**

**Brain-Framing: Instructional Planning With the Brain in Mind**

Consultant to Title I Schools around the US

Former Special Education and G&T Teacher

Grant Writer /Evaluator for Multiple Systemic Change Projects
WHAT?

NOW WHAT?

SO WHAT?

(Outward Bound) from Burton in 'Reach, Touch and Teach'
LET’S START WITH THE BRAIN...THE KEY TO UNDERSTANDING TRAUMA INFORMED PRACTICE...
EMILY DICKINSON POEM #632

The Brain—is wider than the Sky—
For— put them side by side—
The one the other will contain
With ease— and You-beside—

The Brain is deeper than the sea—
For—hold them— Blue to Blue—
The one the other will absorb—
As Sponges—Buckets-do—

The Brain is just the weight of God—
For— Heft them—Pound for Pound—
As they will differ—if they do
As Syllable from Sound—
WHAT?

1. We start with capable brains.

2. We believe that every child can learn and grow and be successful.

3. Then….life gets in the way.
2019 STUDY...CHILDHOOD TRAUMA’S LASTING IMPACTS...

The CDC found:
— Adults who experienced the most potentially traumatic events were more likely to smoke and drink heavily.
— Women, blacks and American Indians and Alaskan Natives were more likely to experience four or more kinds of harm during childhood.
— Preventing such events could potentially reduce the number of adults with weight problems by 2%, the number of adults with coronary heart disease by 13%, and the number of adults with depression by 44%.
She was raped at the age of 8. Her rapist was found guilty, but spent only one day in jail. After he was released, he was murdered. Because of this, she became mute for almost 5 years, believing her “voice killed him.”

“I killed that man, because I told his name. And, then I thought I would never speak again, because my voice would kill anyone…”

Her name was Marguerite Ann Johnson. Later in life, she would change her name to Maya Angelou.

When she finally did speak, she had a lot to say. Maya Angelou became a voice for women and the black community, garnering respect and admiration for her honesty.

She would say, “There is no agony like bearing an untold story inside of you.”
MAKE NO MISTAKE MY FRIENDS.....
EVERY CHILD HAS A STORY....IF WE ARE TRULY LISTENING...
A PUBLIC HEALTH CRISIS

At least five of the top 10 causes of death in the United States are associated with what the CDC calls adverse childhood experiences.
HOW SERIOUS IS THE THREAT?

A Department of Justice Study

Analyzing all mass shootings since 1966

4 common threads

1st ….childhood trauma

Manifesting in anger, violence, and uncontrolled behavior.
First, the vast majority of mass shooters in our study experienced early childhood trauma and exposure to violence at a young age. The nature of their exposure included parental suicide, physical or sexual abuse, neglect, domestic violence, and/or severe bullying. The trauma was often a precursor to mental health concerns, including depression, anxiety, thought disorders or suicidality.

Source: https://www.latimes.com/opinion/story/2019-08-04/el-paso-dayton-gilroy-mass-shooters-data?fbclid=IwAR2gt04G4lTaqHEnZ4LMwxu2NGQ5Xm3tjFWMEXQKO3LzIL1VZc7teZYWXIKqRY
SCHOOL SHOOTING AND BULLYING
Patterns in School Shootings

History of Bullying

"These are not sudden, impulsive acts where a student suddenly gets disgruntled," said NTAC Division Chief Lina Alathari to the Associated Press. "The majority of these incidents are preventable."

Trauma Breeds Trauma
TRAUMA AFFECTS SO MANY...
THE EFFECTS ARE VARIED...

Agitation
Anger
Anxiety
Bullying
Lack of Focus
Forgetfulness
Fatigue
Fear
Withdrawal
TRAUMA’S TRIFECTA OF TRAGEDY

- Complexity
- Capacity
- Creativity
THE GRAY MATTER: CEREBRAL CORTEX

Spread out, it is about the size of a linen dinner napkin.

But, if you were to count the synapses at the rate of 1 per second, you would finish 32 million years after you began!

Sylwester, **Bright Air, Brilliant Fire**
TRAUMA BLOCKS ACCESS

32 Million Years of connections are available.

But, not accessible.
THE BRAIN IS A WORK OF ART. BUT TRAUMA DAMAGES THIS BEAUTIFUL CREATION.
KEY VOCABULARY

ACE: Adverse Childhood Experiences
SEL: Social-Emotional Learning
Trauma
Children of Impaired Parents
Depression
Anxiety
Cortisol
Amygdalas
COMPARE: IMPACTS OF EMOTIONAL TRAUMA ON BRAIN OF A 3 YEAR OLD
TRAUMA AFFECTS THE ACTUAL SIZE OF THE BRAIN

The image comes from a paper by Professor Bruce D Perry, Chief of Psychiatry at Texas Children's Hospital. In his words: “The CT scan on the left is an image from a healthy 3-year-old with an average head size. The image on the right is from a 3-year-old child suffering from severe sensory-deprivation neglect. This child’s brain is significantly smaller than average and has enlarged ventricles and cortical atrophy.”

I see two types of threats

Physical, Emotional, and Psychological Trauma.
1. May be chronic or situational
2. Links to internal (family) or external (war, natural disasters, crimes, accidents).
3. Includes PTSD from impactful situations over which the child has no control and from which the child sees no escape or remedy.
4. Focus: Uncontrolled Cortisol Affecting behavior and outlook.

Physical, Emotional, and Psychological Neglect.
1. Tends to be chronic
2. Linked to poverty and social class.
3. Includes poor nutrition, lack of stimulation, and opportunities for learning and growth.
4. Focus: The word gap.
In your experience, which type of threat has been more prevalent, Trauma or Neglect?

Have the behaviors presented by children been similar?

What has surprised you most?

Be careful not to use names or schools or anything that might affect privacy.
BOTH ARE DANGEROUS AND DAMAGING
Seven categories of adverse childhood experiences were studied: psychological, physical, or sexual abuse; violence against mother; or living with household members who were substance abusers, mentally ill or suicidal, or ever imprisoned.
LET’S TAKE A LOOK AT THE MOST COMPREHENSIVE STUDY....

The CDC-Kaiser Permanente Adverse Childhood Experiences (ACE) Study is one of the largest investigations of childhood abuse and neglect and household challenges and later-life health and well-being.

The original ACE Study was conducted at Kaiser Permanente from 1995 to 1997 with two waves of data collection. Over 17,000 Health Maintenance Organization members from Southern California receiving physical exams completed confidential surveys regarding their childhood experiences and current health status and behaviors.
EMOTIONAL NEGLECT

Emotional neglect: Someone in your family helped you feel important or special, you felt loved, people in your family looked out for each other and felt close to each other, and your family was a source of strength and support.

Physical neglect:
There was someone to take care of you, protect you, and take you to the doctor if you needed it, you didn’t have enough to eat, your parents were too drunk or too high to take care of you, and you had to wear dirty clothes.
ACE
DEFINITIONS...CAUTION...DISTURBING

• **Emotional abuse:** A parent, stepparent, or adult living in your home swore at you, insulted you, put you down, or acted in a way that made you afraid that you might be physically hurt.
• **Physical abuse:** A parent, stepparent, or adult living in your home pushed, grabbed, slapped, threw something at you, or hit you so hard that you had marks or were injured.
• **Sexual abuse:** An adult, relative, family friend, or stranger who was at least 5 years older than you ever touched or fondled your body in a sexual way, made you touch his/her body in a sexual way, attempted to have any type of sexual intercourse with you.
AND MORE....HOUSEHOLD ABUSE DEFINED

• **Mother treated violently:** Your mother or stepmother was pushed, grabbed, slapped, had something thrown at her, kicked, bitten, hit with a fist, hit with something hard, repeatedly hit for over at least a few minutes, or ever threatened or hurt by a knife or gun by your father (or stepfather) or mother’s boyfriend.

• **Substance abuse in the household:** A household member was a problem drinker or alcoholic or a household member used street drugs.

• **Mental illness in the household:** A household member was depressed or mentally ill or a household member attempted suicide.

• **Parental separation or divorce:** Your parents were ever separated or divorced.

• **Incarcerated household member:** A household member went to prison.
<table>
<thead>
<tr>
<th>ACE Category</th>
<th>Women (N = 9,367)</th>
<th>Men (N = 7,970)</th>
<th>Total (N = 17,337)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ABUSE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Abuse</td>
<td>13.1%</td>
<td>7.6%</td>
<td>10.6%</td>
</tr>
<tr>
<td>Physical Abuse</td>
<td>27%</td>
<td>29.9%</td>
<td>28.3%</td>
</tr>
<tr>
<td>Sexual Abuse</td>
<td>24.7%</td>
<td>16%</td>
<td>20.7%</td>
</tr>
<tr>
<td><strong>HOUSEHOLD CHALLENGES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother Treated Violently</td>
<td>13.7%</td>
<td>11.5%</td>
<td>12.7%</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>29.5%</td>
<td>23.8%</td>
<td>26.9%</td>
</tr>
<tr>
<td>Mental Illness</td>
<td>23.3%</td>
<td>14.8%</td>
<td>19.4%</td>
</tr>
<tr>
<td>Parental Separation or Divorce</td>
<td>24.5%</td>
<td>21.8%</td>
<td>23.3%</td>
</tr>
<tr>
<td>Incarcerated Household Member</td>
<td>5.2%</td>
<td>4.1%</td>
<td>4.7%</td>
</tr>
<tr>
<td><strong>NEGLECT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Neglect^3</td>
<td>16.7%</td>
<td>12.4%</td>
<td>14.8%</td>
</tr>
<tr>
<td>Physical Neglect^3</td>
<td>9.2%</td>
<td>10.7%</td>
<td>9.9%</td>
</tr>
</tbody>
</table>
THE IMPACT IS ENORMOUS
ACEs are common across all populations. Almost two-thirds of study participants reported at least one ACE, and more than one in five reported three or more ACEs. Some populations are more vulnerable to experiencing ACEs because of the social and economic conditions in which they live, learn, work and play.

The ACE score is the total sum of the different categories of ACEs reported by participants. Study findings show a graded dose-response relationship between ACEs and negative health and well-being outcomes. In other words, as the number of ACEs increases so does the risk for negative outcomes. Source: CDC.Gov.
Early Adversity has Lasting Impacts

- Traumatic Brain Injury
- Fractures
- Burns
- Depression
- Anxiety
- Suicide
- PTSD
- Unintended pregnancy
- Pregnancy complications
- Fetal death
- HIV
- STDs
- Cancer
- Diabetes
- Alcohol & Drug Abuse
- Unsafe Sex
- Education
- Occupation
- Income
WHAT’S YOUR AWARENESS OF THE ISSUES?

In a sample of 119 seven-year-old children in Philadelphia, frequent exposure to violence was reported:

- 75% had heard gun shots.
- 60% had seen drug deals.
- 18% had seen a dead body outside.
- 10% witnessed a stabbing or shooting in their homes.
Results: More than half of respondents reported at least one, and one-fourth reported ≥2 categories of childhood exposures. We found a graded relationship between the number of categories of childhood exposure and each of the adult health risk behaviors and diseases that were studied (\(P < .001\)). Persons who had experienced four or more categories of childhood exposure, compared to those who had experienced none, had 4- to 12-fold increased health risks for alcoholism, drug abuse, depression, and suicide attempt; a 2- to 4-fold increase in smoking, poor self-rated health, ≥50 sexual intercourse partners, and sexually transmitted disease; and a 1.4- to 1.6-fold increase in physical inactivity and severe obesity.
WHAT ARE THE ODDS?
These things are complicated and tend to cluster

The number of categories of adverse childhood exposures showed a graded relationship to the presence of adult diseases including ischemic heart disease, cancer, chronic lung disease, skeletal fractures, and liver disease. The seven categories of adverse childhood experiences were strongly interrelated and persons with multiple categories of childhood exposure were likely to have multiple health risk factors later in life.
PAUSE....YOUR THOUGHTS?

TRAUMA
- Feelings of fear, helplessness, uncertainty, vulnerability
- Increased arousal, edginess, and agitation
- Avoidance of reminders of trauma
- Irritability, quick to anger
- Feelings of guilt or shame
- Dissociation, feelings of unreality or being "outside of one's body"
- Continually feeling on alert for threat or danger
- Unusually reckless, aggressive or self-destructive behavior

ADHD
- Difficulty sustaining attention
- Struggling to follow instructions
- Difficulty with organization
- Fidgeting or squirming
- Difficulty waiting or taking turns
- Talking excessively
- Losing things necessary for tasks or activities
- Interrupting or intruding upon others

OVERLAP
- Difficulty concentrating and learning in school
- Easily distracted
- Often doesn't seem to listen
- Disorganization
- Hyperactive
- Restless
- Difficulty sleeping
AND THEN POVERTY INTRUDES, INFUSES, IMPAIRS....
SO,....

WHAT?

What if?

Confused emoticon
WHAT BEHAVIORS PRESENT?

Initial and Long Term Behaviors
May Be Very Different
A child may be in “survival mode” during and right after the trauma.
Things may seem ok…but beware.
This is a process.
A complex one.
SIGN. SIGN. EVERYWHERE A SIGN.

Sign, sign, everywhere a sign
Blockin' out the scenery, breakin' my mind
Do this, don't do that, can't you read the sign?

5 Man Electrical Band
BE AWARE..

Immediate
*Crying
*Fear
*Withdrawal
*Not eating
*Not sleeping
*Panic and Confusion
*Headache and Stomach Ache
AND THEN THE LONG-TERM CONSEQUENCES

* All of those from Immediate in varying degrees...plus
* Eating Disorders
* Self Medication with drugs/alcohol even in elementary
* Aggressive Behavior
* Inappropriate Need for Attention
* Sleep Disorders
* Hyper-Vigilance

Copyright Dr. Linda Karges-Bone
THERE IS HOPE. THERE IS HELP. THERE IS YOU!
THE TRAUMA INFORMED TEACHER....

1. Believes that every child has potential and promise.

2. Is not swayed by prejudices nor challenges.

3. Is committed to creating a safe and secure environment.

4. Takes steps to protect and provide sanctuary for every child.

5. Is not afraid to push back against injustice.
MOST OF ALL....

The Trauma Informed teacher is a preacher of the gospel of resilience.
Not all trauma leads to disaster

Sometimes, and a lot of times...it leads to resilience, perseverance, and even eminence.

The Goertzels found that less than 15% of their famous men and women had been raised in supportive, untroubled homes, with another 10% in a mixed setting. Of the 400, a full 75%—some 300 individuals—had grown up in a family burdened by a severe problem: poverty, abuse, absent parents, alcoholism, serious illness or some other misfortune. “The ‘normal man,’ ” the Goertzels wrote, “is not a likely candidate for the Hall of Fame.”
BUT FIRST . . . YOU HAVE TO BELIEVE THAT CHANGE IS POSSIBLE.

1. How much do you know about neuroplasticity?

2. How powerful is the nature vs nurture question?

3. How far are you willing to go to save a child?

4. How aware are you of the perils and possibilities of brain change?
GET TO KNOW THE BRAIN....

Structure
Scope
Synergy
Schema
Strategies
Systems
A HEALTHY BRAIN CAN LEARN

Poverty
Trauma
ACE
Stress
Toxins
Poor Nutrition
Low Birth Weight
Cortisol
Negativity
THE CEREBRUM: GREY MATTER AND HIGHER ORDER THINKING

Most highly developed part of the brain

Two hemispheres

Left: language

Right: visualization, creativity

Divided by the thick bundle of nerve fibers called the Corpus Callosum
THE BRAIN IS INFINITELY COMPLEX

The brain has 30 billion working parts.

The brain doubles the number of neurons between the ages of 0 and 18.

Its nerve impulses travel 170 mph.

It can record more than 86 billion bits of information each day!
IN THE LIMBIC SYSTEM WE FIND THE AMYGDALA AND HIPPOCAMPUS

The hippocampus is associated with memory.

The amygdala is a walnut sized structure that is activated when the brain senses danger, fear, or attack.
You will have the most neural connections at around age 2.....15,000 synapses PER neuron and maintain that level until around age...

10 years, when unused neural connections are “Pruned Away”.

Human brains are particularly open to new learning during this critical period.

But...they are also vulnerable to damage.

THE TICKING CLOCK
NEUROPLASTICITY IS YOUR FRIEND....TO A POINT
MEANWHILE.....

Neuroplasticity may help to forge new pathways, but they may be connected to negative, episodic memories, that color every connection.
BUT A BRAIN ASSAULTED BY CORTISOL, COURTESY OF TRAUMA AND/OR POVERTY

Will Struggle
Will Suffer
Will Sink Without a Lifeline
Cortisol, the stress hormone does so much damage to our brains as it seeps out: shutting down the pre-frontal cortex, impeding creativity: actually shrinking the hippocampus, the center of memory; and slowing neuro-genesis. But, when you recognize the fact that simply living in poverty triggers cortisol, even when there is no direct stressor like abuse or illness in a child’s life, you have a huge problem. Dr. Linda Karges-Bone
THE LOGIC MODEL

Children who live in poverty and/or who experience trauma need to use their most creative brains to find new pathways, for learning and living.

Children affected by poverty/trauma are subject to more cortisol, which impedes creativity.

Therefore, we (teachers, leaders, parents) need to find creative ways to reduce cortisol and increase creativity.
IN ORDER FOR THE CHILD’S BRAIN TO DEVELOP TO ITS HIGHEST POTENTIAL...

Stress must be kept to a minimum.

We can now measure the stress of young children and infants by swabbing the tongue for “cortisol” the stress hormone.

Stress hurts the brain.
BASICALLY, YOU ARE IN A CONSTANT GAME OF PUSHING BACK AGAINST CORTISOL...

1. Cortisol depresses the pre-frontal cortex.

2. The Trauma Informed teacher re-starts the cortex with novelty and security.

3. Cortisol triggers hyper awareness of threat.

4. The Trauma Informed teacher assures the child that it is safe to take risks.
<table>
<thead>
<tr>
<th>Poverty</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Birth Weight</td>
<td>Smaller hippocampus...the center for memory and birth of new neurons.</td>
</tr>
<tr>
<td>Lack of Enriched Early Life Experiences</td>
<td>Less mass in the pre-frontal cortex</td>
</tr>
<tr>
<td>Fewer Words and Books</td>
<td>Larger amygdalas, controlling stress and anger</td>
</tr>
<tr>
<td>Higher Cortisol Levels</td>
<td></td>
</tr>
</tbody>
</table>
CHILDHOOD STRESS INCREASES CORTISOL

Stress Matters…

Stress Factors

1. Low SES
2. Family Conflict
3. Lack of Family Stability
4. Neglect

STRESS IS A BRAIN KILLER...BEWARE

- Stress increases levels of cortisol, which can kill neurons.
- Stress decreased levels of growth factors which cause cell growth.
- Stress reduces serotonin, which causes neurogenesis.
STRESS HARMs CHILDREN’S MEMORIES

Stressed-out children have more trouble paying attention and memorizing information than their relaxed peers.

Montreal: Douglas Hospital

Cortisol is the culprit

Poverty: more cortisol.

Depressed moms: the most cortisol.

Chronic stress may be more harmful t

Cortisol may shrink the hippocampus!
• The **Amygdala** is a pair of nickel-sized, almond-like cell clusters buried deep within the brain. It is the birthplace of fear and anxiety.

• Fear, anxiety, and stress “turn it on” and once it is “on”, it may be days, weeks, or longer before it turns “off”.

• The brain is in survival mode during this time and does not function normally.

• The root of the word is Greek for “almond”...also a brain food!
The amygdala is the most important structure in the brain for fear.

It recognizes fear and activates the hormonal response.

It forms a “pre-conditioned” response for fear so that your brain will be prepared for the dangerous response again.

Once the amygdala has “learned a fear”, it cannot be undone.

Fear connections appear to be durable, if not hard-wired.
WHAT HAPPENS IN SCHOOL?

Once the amygdala (s) turn on...it can be weeks or months until it turns OFF.

Even once the stressor is removed.

During this time, the pre-frontal cortex is effectively shut down, while the brain shifts into survival mode.

Learning, attention, decision-making, creativity...all depressed, repressed, suppressed.
now

tomorrow

yesterday
LET'S FLIP IT

If ACE is what triggered these negative outcomes....
Then let's respond with our own ACE...with positive energy....
ACE to the 2\textsuperscript{nd} Power
Attitudes
Awareness

Connections
Creativity

Energy
Environment

ACE
STEP 1.... ATTITUDE IS EVERYTHING
YOUR EQ WILL BRING OUT THE IQ IN EVERY CHILD . . .
THE TRAUMA INFORMED TEACHER IS AN ADVOCATE.
AWARENESS...FILTER EVERYTHING THROUGH THE LENS OF TRAUMA
THE TRAUMA INFORMED TEACHER...CONSIDERS ORDINARY EVENTS THROUGH THE FILTER OF EXTRAORDINARY AWARENESS OF THREAT
A child's behavior is NOT always what it seems

What we see: Behavior

What we don't see: What's under the surface

- Social Skills
- Basic Needs
- Security
- Hunger
- Power
- Attention
- Self-Esteem
- Physical Safety
- Thoughts
- Attachment
- Sensory Needs
- Emotional Development
- Executive Functioning
- Need for Connection
- Need to Belong
THE TRAUMA INFORMED TEACHER IS CAUTIOUS AND EMPATHETIC...

- These kids are skeptical of everyone and everything...including you.
- They are programmed to keep the family secrets.
- They are protective of their abusers.
- They may be unaware of the scope of their injuries...physical and emotional.
AWARENESS...

Three Truths About Trauma and Kids...

1. Their sense of awareness is skewed. Their “normal” is our potential nightmare.

2. Their sense of loyalty is fierce. They will keep their family secrets no matter the cost.

3. Their ability to “see” a different kind of life is muddled by fear, fatigue, and fatalism. They are fragile, but would never admit it.
WHAT ABOUT YOU? DO YOU DARE TAKE THE ACE QUIZ?

https://www.npr.org/sections/health-shots/2015/03/02/387007941/take-the-ace-quiz-and-learn-what-it-does-and-doesnt-mean
THIS CAN BE UNCOMFORTABLE....

1. There is no “one size fits all” in Trauma Infused.
2. You cannot treat every child the same, especially with Classroom Management.
3. With assessments.
4. With pacing.
5. With your body language.

‘one size fits all’ fits no-one
TEACHERS ARE A “NATURAL HIGH”

Dopamine fires when children “anticipate” an interesting, positive experiences.

Create lessons and learning that trigger dopamine, not cortisol.

Use your voice, body language, mirror neurons.

Be aware of your own POWER.
When researchers removed a famous painting from the Museum of Modern Art in NYC and quizzed employees who had seen the work every day, each remembered only a few aspects of the painting. Curators remembered themes of the painting, art preservers recalled mainly its size and how tough it was to clean, security guards remembered that it had a bright color. Not one could thoroughly describe it.
When the brain “anticipates” a reward and is looking for it, dopamine is fired.

Dopamine brings feelings of pleasure.

MRI scans of humans during a learning experience showed the pleasure center in the forebrain strongly activated by unpredictable stimuli.

“The only other human study that activated the nucleus accumbens this much was one in which cocaine was injected.” Read Montague, Baylor College of Medicine

SURPRISE FEELS GOOD TO THE BRAIN
At the heart of these approaches is the belief that students’ actions are a direct result of their experiences, and when students act out or disengage, the question we should ask is not “what’s wrong with you,” but rather “what happened to you?” By being sensitive to students’ past and current experiences with trauma, educators can break the cycle of trauma, prevent re-traumatization, and engage a child in learning and finding success in school.

AND POVERTY /ACE NOT THE ONLY THREATS.
WE ARE FEEDING A CYCLE OF “NEGATIVE FORECASTING”.
AN IEP MINDSET REINFORCES NEGATIVE THINKING

"Negative stimuli produce more neural activity than do equally intense (e.g., loud, bright) positive ones, Hanson writes on his website. “They are also perceived more easily and quickly. For example, people in studies can identify angry faces faster than happy ones; even if they are shown these images so quickly (just a tenth of a second or so) that they cannot have any conscious recognition of them, the ancient fight-or-flight limbic system of the brain will still get activated by the angry faces.” Dr. Rick Hanson
NEW BOOK TO CONSIDER...
NEGATIVITY BIAS EVOLVED AS A SURVIVAL MECHANISM. “FROM THE POWER OF BAD”.

* A single bad event can produce lifelong trauma, but there is no psychological term for the opposite of trauma, because no good event has such a lasting impact.

* Bad is stronger than good.

* The brain identifies, stores, and holds onto the negative in order to protect itself in the future.
THERE IS HOPE AND HELP, WITHIN THE BRAIN.

1. Post-Traumatic Growth.

2. The brain can use trauma to build resilience and a renewed capacity for happiness.

3. Most people report that trauma ultimately made them stronger.

4. Acknowledge the trauma. Remove the trauma. But don’t dwell on the trauma.

5. Move beyond it.
“It might be of interest to note that all of today’s “brain based learning” techniques... capitalize on what neuroscientists understand about the functions of the limbic system.”
“With these learning techniques, we try to transform our classrooms into environments that feel safe and familiar. The objective is to create an environment where the brain’s fear/rage response (amygdala) is not triggered. Although many of us think of ourselves as thinking creatures that feel, biologically, we are feeling creatures that think.”

Jill Bolte Taylor in “My Stroke of Insight”
FOLLOW THE RULE OF 4....

For every ONE negative thought, word, or experience, the brain demands FOUR positives.

4 to 1 ....that’s the formula.
TEACH ALL KIDS HOW TO SELF-REGULATE AND TALK THROUGH DISAPPOINTMENTS…

- Be a winner
- By choosing
- Right life position
- I am ok - you are ok
- But how???
TRANSACTIONAL ANALYSIS IS NEW AGAIN...

We all have “scripts” written early on in our lives and trauma informs those scripts.

Strategies such as TA and other EQ models allow us to realize, analyze, and strategize.

We can rewrite scripts.
LEARN TO CAPITALIZE ON THE POSITIVE

* From the emerging research on positive thinking

* Share good news, positive outcomes, successes, and growth

* An enthusiastic response is critical

* “To get the full value of a joy, you must have somebody to divide it with.” Mark Twain

* Create classrooms that capture joy and affirm growth.
A BRILLIANT IDEA...FROM A CLASSROOM TEACHER

Every Friday afternoon, she asks her students to take out a piece of paper and write down the names of four children with whom they’d like to sit the following week. The children know that these requests may or may not be honored. She also asks the students to nominate one student who they believe has been an exceptional classroom citizen that week. All ballots are privately submitted to her.
SHE LOOKS FOR PATTERNS. ANTICIPATES PROBLEMS. HEADS OFF BULLYING.

And every single Friday afternoon, after the students go home, she takes out those slips of paper, places them in front of her, and studies them. She looks for patterns.

Who is not getting requested by anyone else?

Who can’t think of anyone to request?

Who never gets noticed enough to be nominated?

Who had a million friends last week and none this week?
STEP 2: CREATIVITY AND THE TRAUMA INFORMED TEACHER...
CONNECTIONS AND CREATIVITY

1. These kids often miss out on experiences that build language and schema.

2. These kids may have problems thinking creativity and with connectivity because cortisol impedes higher order processes.

3. These kids need a super-enriched, hyper-connected learning environment.

4. They need this to 1) Escape pain and 2) Trigger synapses.
ENRICHED ENVIRONMENTS CHANGE THE BRAIN. WSJ 3/19/13

Harvard University

Studied the brains of mice

Applied toxic Oligomers to the hippocampus

Compared experimental/control groups raised in enriched/sterile settings.

Stimuli seemed to “block” the toxins.
Pigs living in either enriched or barren pens were studied to determine if stress, defined by lack of access to stimulation, affected memory.

Short-term memory was impacted.

Pigs are actually, potentially “smart”, 10% pre-frontal cortex.
SELECTED STRATEGIES TO REDUCE THE IMPACT OF CORTISOL

Use of color ….specifically GREEN.

Mood Foods …..specifically those that reduce inflammation.

Physical Activity to increase oxygen to the brain and reduce anxiety.

Use of classical music during practice times.

Application of scents, which impact the limbic system…..particularly lavender, vanilla, and cinnamon.
SPECIFIC MOOD FOODS

Almonds....look like amygdalas but improve brain function.

Walnuts.....look like brains but contain choline for neural transmission.

Blueberries....sometimes called brain berries move neurons 55% faster!

Omega-3 fish improves kids’ grades!

See you hand-outs for Dr. Bone’s brain recipes!
BRAIN TIPS: TOOLS TO BRIDGE THE POVERTY GAP
TEACHER DIRECTED STRATEGIES

SPF..Schema, Practice, and Focus in all lessons.

Making sure that all lessons include opportunities for the students to say It, Show It, Do It.

Use of Multiple Intelligences and Learning Styles.

Single Gender Programs.

Biblio-Therapy.
The Cone of Learning

- Lecture: 5%
- Reading: 10%
- Audio Visual: 20%
- Demonstration: 30%
- Discussion Group: 50%
- Practice by Doing: 75%
- Teaching Others: 90%

Average Learning Retention Rates
POVERTY, STRESS, AND SLEEP

Children who live in poverty lack regular, early bedtime routines.

Leading to less and lower quality sleep.

Fewer than 6 hours of deep cycle sleep impedes memory storage in the hippocampus.

http://commcgi.cc.stonybrook.edu/am2/publish/Medical_Center_Health_Care_4/SBUMC_Study_Reveals_Children_From_Disadvantaged_Household_Often_Lack_Bedtime_Routines_Possibly_Affecting_Health_printer.shtml
#1...TEACHER STRESS MUST BE ADDRESSED IN TRAUMA INFORMED PRACTICE

Teaching is considered the most stressful of the professions.

Your body needs to balance good and bad stress.

Too much stress creates inflammation.

Inflammation makes you age more quickly.

Pages 4-13 of Brain Tips
BRAIN BERRY SMOOTHIE

Reduces inflammation
Increases clarity in thinking
Moves neurons 55% faster

1 cup coconut water
1 cup frozen blueberries
1 cup low fat Greek Yogurt (vanilla, plain)
½ banana (optional)
STEP 3: ENERGY AND ENVIRONMENT

The Trauma Informed Teacher creates energy that lifts a depressed, anxious child to new heights.

The Trauma Informed Teacher uses novelty and neuro-architecture to design learning environments that “trick” the brain into shifting from a survival to a “thrival” mode.
RELATIONSHIPS IMPROVE OUTCOMES

Mirror Neurons from Teacher to Child
High Expectations
Warmth and Compassion
Structure and Routines
Good Surprises
A mirror neuron is a neuron that fires both when an animal acts and when the animal observes the same action performed by another.

When children “see” their teachers’ positive energy and acceptance, their brains and behaviors respond.
TRAUMA INFORMED IS ABOUT CREATING NEW, POSITIVE MEMORIES...
SENSORY RICH TEACHING REDUCES CORTISOL

Hiding Scented Dryer Sheets lowers stress.

Use of apple cinnamon plug-ins raises focus.

Green plants in the classroom increase test scores.

Cinnamon and Peppermint improve focus.
THE ARTS ARE A GREAT START IN TRAUMA INFORMED TEACHING...

1. The ARTS can help create distraction and use novelty to trick the brain into feeling more positive.

2. The ARTS provide healthy outlets for energy and safe ways to express all kinds of emotions.

3. The ARTS provide a way out of unhealthy environments.

4. The ARTS build community and connectivity.
USE ART THERAPY AS A TOOL
In 2000, the College Board reported that SAT takers who had experience in music performance scored **55 points higher** on the Verbal portion of the test and **38 points higher** on the Math portion.

2000 Average SAT Verbal.....477 (No Arts)
2000 Average SAT Verbal.....532 (Arts)
Spanish researchers turned snippets of genetic code into music by attaching the “do-re-mi” scale to 4 key building blocks of DNA.

The “DNA music” was played while yeast was fermenting in wine making.

The layer of yeast formed while “music” played was more uniform and protected when compared to yeast formed in silence.
CREATIVITY VS CORTISOL

The arts can reduce anxiety and thus cortisol.

Infusing music, song, and rhythm into lessons reduces cortisol and links the limbic system and pre-frontal cortex in healthy ways.

Instruction in instrumental music improves verbal memory over time.

Gardner’s Theory of MI is a powerful tool for Title I Schools.
Researchers have found two areas of the brain that seem to make new neurons:

- The Olfactory Bulb (smell)
- The Hippocampus (lower middle region of the brain between the ears)

If they both make neurons, essential for creativity and flexibility in thinking, then wouldn’t it make sense to use scents???

REMEMBER THE OLFACTORY BULB
STRATEGIES FOR TRAUMA INFORMED INSTRUCTION AND ASSESSMENT

1. Tiered Assignments and Assessments
2. Coaching/Peer Support
3. Layering of Schema
4. Group Projects
5. Goal Setting
6. Tight feedback loops
7. Growth Praise
Dr. Nora Volkow
Research Psychiatrist at National Institute on Drug Abuse
Part of JAMA paper on ADHD Findings

“Try behavioral therapies first. She said her team’s findings underscored the value of having teachers be as engaging as possible.”

www.dana.org
WHEN YOU’RE ON YOU’RE A GAME...

Teachers are better than a drug.
You have power.
You have all You Need.
To re-balance brains assaulted by Cortisol
Celebrate the cerebrum!
WHAT REALLY HELPS?

- Compassion
- Listening
- Empathy
- Restorative Practices
- Patience
- Security and Routine
- Continuity
- Kindness
- Providing Answers
- Building Trust
GO FORTH AND CREATE CLASSROOMS THAT ARE SAFETY NETS FOR EVERY CHILD, FOR EVERY BRAIN.

“If there is no struggle, there is no progress.” - Frederick Douglass
TRAUMA INFORMED IS A STATE OF BEING, NOT A SET OF STRATEGIES. BE THERE. BE AWARE.
JOIN US FOR THE BOOK SIGNING