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How Emotions Affect Learning, Behaviors, and Relationships

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How Emotions Affect Learning, Behaviors, and Relationships

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We need all of our emotions for thinking, problem solving, and focused attention. We are neurobiologically wired, and to learn anything, our minds must be focused and our emotions need to "feel" in balance.

[Emotional regulation is necessary](#) so that we can remember, retrieve, transfer, and connect all new information to what we already know. When a continuous stream of negative emotions hijacks our frontal lobes, our brain's architecture changes, leaving us in a heightened stress-response state where fear, anger, anxiety, frustration, and sadness take over our thinking, logical brains.

The 2015 film *Inside Out* is an exceptional and accurate portrayal of our five core emotions. These primary emotions are joy, sadness, fear, anger, and disgust. This film depicts how we use these emotions when difficult and happy experiences arise, and how we need the negative emotions just as much as the positive. After reviewing the science behind *Inside Out*, I developed research-based educational neuroscience strategies, questions, and assessment ideas aligning with a few scenes from the film. In this post, we'll explore four categories representing the conceptual and developing brains of all children and adolescents. There is no recipe for successful implementation of these strategies, and each will be based on the grade level, teacher preparation time, class time, and mostly the

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enthusiasm that we bring when introducing these concepts to our students.

Neuroplasticity/Feelings

Neuroplasticity is the brain's capacity to rewire, strengthening pathways between neurons that are exercised and used while weakening connections between cellular pathways that are not used or retrieved. Rewiring our brain circuits is experience dependent -- we can change the synapses or connections that are firing by changing a perception or behavior. Neuroplasticity includes reframing or reappraising an experience, event, or relationship so that we observe and experience a different outcome. What we perceive and expect is what we get! The brain sees and responds to perception, not reality. Negative lingering brain states can become neural traits that are hardwired into our circuitry. Neuroplasticity is the best news from neuroscience in recent years.

The processes that support emotional intelligence are addressed in the growing field of Interpersonal Neurobiology (IPNB). The theory behind IPNB provides a picture of human mental development and the potential for transformation that exists in changing thinking and processing of emotions, thoughts and behaviors (Siegel, 2001, 2006, 2007). The concept of emotional intelligence is interrelated with IPNB and the development of mindful awareness as a strategy for achieving healthy integration of emotional, psychological, physiological, and cognitive functioning (Davis & Hayes, 2011; Siegel, 2001, 2007).

In the film *Inside Out*, we are introduced to **core memories**. All of us are constantly creating memories, but what makes them core or significant are the emotions that we attach to these past events, experiences, and relationships. Emotions drive our attention and perception. We form positive and negative core memories because of the emotional intensity that we've attached to the event or experience.

The movie introduces us to the emotions mingling in 11-year-old Riley's brain. Her joyful core memories are represented by golden balls. At the beginning of the film, Riley's sadness interferes with these golden balls of joy-filled memories. When a core golden memory is touched by sadness, the gold fades to deep blue, and joy becomes frustrated. Later, we learn through Riley's various experiences that the blue and gold tones representing sadness and joy can work well together, weaving beautiful contrast to create a lasting core memory. These core memories are stored in "long-term" and eventually become a part of our Personality Islands, or what I have labeled as the Islands of Self.

The questions below are designed to ignite your creativity and thought processes as you integrate topics and standards into morning meetings, afternoon circles, and subject matter -- as you embrace the power of feelings and how they intimately affect learning, relationships, and behaviors.

Questions for Educators

1. What types of core memories could you create in your classrooms and buildings with students and teachers? These memories could be emotional, academic, or social, reflecting a new relationship, a novel way of attempting an assignment, or a collaboration project with others.
2. How can we create core memories that energize, pique curiosity, and bring joy to our students?
3. Are you teaching the students about their neuroanatomy?
4. Do students understand the negative role that stress plays in cognitive functioning with regard to learning, memorizing, and retrieving information?
5. How might we begin a class period or day with an emotional check-in? What is the weather in your brain? Could we use laminated notecards with the primary emotions for younger students and the primary and secondary emotions for older students? Students could display the feeling that they are holding as they begin class and note how it changes throughout the day.

Questions for Students

These questions were designed for promoting student discussion, self-reflection, and self-awareness. Dr. Dan Siegel's research reports that, "What is sharable is bearable."

Sadness helped Joy in the film, and your own Sadness can help you.

1. How do you cope with Sadness?
2. Can you use your Sadness to feel better? How?
3. What would happen if we never felt Sadness? Is it sometimes good to keep Sadness inside a circle so that it does not spread and get out of control? Why?

Fear and Anger can protect and motivate us.

4. When was Fear needed in your life?
5. How did Fear help you?
6. What is the perfect amount of Fear?
7. What happens to our thinking and problem solving when we carry too much Fear or Sadness?
8. How does Anger show up in your brain?
9. Has Anger ever helped you?
10. How do you typically handle your Anger?

Disgust keeps us from being poisoned physically and socially.

11. How has the feeling of Disgust helped you?
12. How has expressing Disgust hurt your relationships or experiences?

In the film, Joy plays the leading role among the feelings in Riley's brain.

13. Does Joy always play the leading role in our brains?
14. What happened when Joy and Sadness left headquarters?
15. How do we see Joy in your brain?
16. What creates Joy to take over your brain?

Imagine having no feelings at all.

17. What would life be like if we didn't have feelings?
18. Describe two positive changes in our life if we didn't have feelings.
19. Describe two negative changes that could occur in a life with no feelings.

In my next post, we'll look at core memories. Meanwhile, in the comments section below, please share how you help your students accept and explore their own emotions.

Educational Neuroscience Curriculum From "Inside Out"

Inspired by the 2015 film "Inside Out," Lori Desautels integrates educational neuroscience strategies into the classroom.