Module 3 – Excerpt from Culturally Responsive Teaching and the Brain

Culturally Responsive Brain Rules

So, what do we do with all this information about the brain and how it works? I have integrated the most important information from the first three chapters into six core design principles to make it easier to remember and reference. When you understand these brain rules, it becomes easier to understand how the brain uses culture to interpret threats and opportunities. I have highlighted the implication each principle has on culturally responsive teaching.

Remember that no single principle stands alone. They all work together, but I've tried to tease them apart in order to highlight the unique qualities of each one. You will see the principles in later chapters along with details about how to operationalize them. The order of the principles isn't important, except for Number 1. It is always first.

1. *The brain seeks to minimize social threats and maximize opportunities to connect with others in community.*

The brain's two prime directives are to stay safe and be happy. The brain takes its social needs very seriously and is fierce in protecting an individual's sense of well-being, self-determination, and self-worth along with its connection to community. We cannot downplay students' need to feel safe and valued in the classroom. The brain will not seek to connect with others if it perceives them to be threatening to its social or psychological wee-being based on what they say and do. It's important to point out that what a teacher may regard as an innocent gesture may be interpreted by the student as threatening. As a result, the amygdala stays on alert, trying to detect other **microaggressions**. Microaggressions are the subtle, everyday verbal and nonverbal slights, snubs, or insults which communicate hostile, derogatory, or negative messages to people of color based solely on their marginalized group membership. In many cases, those covert messages serve to invalidate positive group identity or trivialize their experiences. They are designed to demean them on a personal or group level, communicate they are lesser human beings, suggest they do not belong with the majority group, threaten, and intimidate, or relegate them to inferior status and treatment. (Sue et al., 2007)

As a culturally responsive teacher you have to familiarize yourself with common actions or conditions that make students feel unsafe, even if they cannot articulate this sense of threat. Your definition of what feels threatening or welcoming may be different from the students' definition, it is important to act according to students' definitions not your own.

In the end, dependent learners who don't' feel supported are especially vulnerable to feeling threatened. This is our process of neuroception, the unconscious safety-threat detection system at work. They will avoid the perceived threat of public humiliation, going into fight, flight, or freeze mode.

It is not enough to have a classroom free of psychological and social threats. The brain needs to be part of a caring social community to maximize its sense of well-being. Marginalized students need to feel affirmed and included as valued members of a learning community.

2. *Positive relationships keep our safety-threat detection system in check.*

There is a reason that collectivist cultures focus on relationships. The brain is wired to scan continuously for social and physical threats, except when we are in positive relationships. The oxycontin positive relationships trigger helps the amygdala stay calm so the prefrontal cortex can focus on higher order thinking and learning. Just as you want to identify and remove things that create an emotionally unsafe environment, you have to also focus on building positive relationships that students recognize based on their cultural schema.

3. *Culture guides how we process information*

Cultures with a strong oral tradition rely heavily on the brain's memory and social engagement systems to process new learning. Learning will be more effective if processed using the common cultural learning aids – stories, music and repetition. These elements help build neural pathways and activate myelination. They help neurons fire and wire together in ways that make learning "sticky." Collectivist cultures use social interactions, such as conversation and storytelling as learning aids. Because of society's history of segregation and unequal educational opportunities, many communities of color continue to use the natural learning modalities in the home and community. As a result, their neural pathways are primed to learn using story, art, movement and music.

4. *Attention drives learning.*

Neuroscience reminds us that before we can be motivated to learn what is in front of us, we must pay attention to it. Every brain's RAS is tuned to novelty, relevance, and emotion, but each person interprets these three elements through his particular cultural lens. Cultures based on an oral tradition rely heavily on the RAS to activate learning, using music, call and response, and other attention grabbing strategies to signal something important. Learning isn't a passive event but a dynamic action. It requires focused attention, active engagement and conscious processing by the learner. The hallmark of an independent learner is his ability to direct his attention toward his own learning.

5. *All new information must be coupled with existing funds of knowledge in order to be learned.*

Our limbic brain creates schema that operate as background knowledge. These internal scripts help us make sense of our external experiences. All learners have to connect new content to what they already know. What we already know is organized according to our cultural experiences, values, and concepts. For example, in Brazil, Paulo Freire taught reading skills by organizing his reading material around villagers' funds of knowledge. If they were farmers, he selected words and texts related to tools and processes related to farming. They already had

deep neural pathways and complex schema around farming to connect the new written words to. Freire capitalized on the fact that their neurons around farming concepts, visual images and now written words would all fire and wire together, strengthening their automaticity with decoding written words. So, to learn new content or skills, the brain figures out where to make the connections to what we already know so that we "get it." To make learning stick, we have to determine what students already know and understand how they have organized it in their schema. Form there we must construct culturally-based connections or "scaffolds" between the existing schema and the new content.

6. *The brain physically grows through challenge and stretch, expanding its ability to do more complex thinking and learning.*

The brain's main purpose is to get smarter at surviving and thriving in life. Brain growth is stimulated when we have to figure out something new, engage in a complex task, or complete a puzzle. The brain's response is to literally grow more capacity in the form of neurons, dendrites, and synapses, topping it all off with a thick coat of myelin to increase speed. When we look at the educational experiences of many groups marginalized by race, language, or socioeconomic, we see that they often get a "watered down" curriculum that doesn't require higher and harder thinking on their worn. To empower dependent learners and help them become independent learners, the brain needs to be challenged and stretched beyond its comfort zone with cognitive routines and strategy.

Culturally responsive teaching is also about empowerment and interrupting teaching practices that keep certain students' dependent learners. We have to create the right instructional conditions that stimulate neuron growth and myelination by giving students work that is relevant and focused on problem solving. Just turning up the rigor of instruction or increasing the complexity of content will bot stimulate brain growth. Instead, challenge and stretch come with learning the moves to do more strategic thinking and information processing.

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