# **Culturally Responsive Teaching and the Brain**

Excerpts from the book by Zaretta Hammond (2015), edited by Sally Heilstedt

## **Chapter 1: Climbing out of the Gap (pp. 14-15, 18-20)**

School practices that emphasize lecture and rote memorization are part of what Martin Haberman (1991) calls a “pedagogy of poverty” that sets students up to leave high school with outdated skills and shallow knowledge. They are able to regurgitate facts and knowledge but have difficulty applying this knowledge in new and practical ways. To be able to direct their own lives and define success for themselves, they must be able to think critically and creatively.

As educators, we have to recognize that we help maintain the achievement gap when we don’t teach advance [sic] cognitive skills to students we label as “disadvantaged” because of their language, gender, race, or socioeconomic status. Many children start school with small learning gaps, but as they progress through school, the gap between African American and Latino and White students grows because we don’t teach them how to be independent learners….

While the achievement gap has created the epidemic of dependent learners, culturally responsive teaching (CRT) is one of our most powerful tools for helping students find their way out of the gap. A systemic approach to culturally responsive teaching is a perfect catalyst to stimulate the brain’s neuroplasticity so that is grows new brain cells that help students think in more sophisticated ways.

I define culturally responsive teaching as: An educator’s ability to recognize students’ cultural displays of learning and meaning making and respond positively and constructively with teaching moves that use cultural knowledge as a scaffold to connect what the student knows to new concepts and content in order to promote effective information processing. All the while, the educator understands the importance of being in relationship and having a social-emotional connection to the student in order to create a safe space for learners….

### **The Four Practice Areas of Culturally Responsive Teaching**

The Ready for Rigor framework lays out four separate practice areas that are interdependent. When the tools and strategies of each area are blended together, they create the social, emotional and cognitive conditions that allow students to more actively engage and take ownership of their learning process.

#### **Practice Area I: Awareness**

Successfully teaching students from culturally and linguistically diverse backgrounds – especially students from historically marginalized groups – involves more than just applying specialized teaching techniques. It means placing instruction within the larger sociopolitical context. In this first practice area, we explore the development of our sociopolitical lens. Every culturally responsive teacher develops a sociopolitical consciousness, an understanding that we live in a racialized society that gives unearned privilege to some while others experience unearned disadvantage because of race, gender, class, or language. They are aware of the role that schools play in both perpetuating and challenging those inequities. They are also aware of the impact of their own cultural lens on interpreting and evaluating students’ individual or collective behavior that might lead to low expectations or undervaluing the knowledge and skills they bring to school. Mastering this practice area helps teachers

* Locate and acknowledge their own sociopolitical position
* Sharpen and tune their cultural lens
* Learn to manage their own social-emotional response to student diversity

#### **Practice Area 2: Learning Partnerships**

The second practice area focuses on building trust with students across differences so that the teacher is able to create a social-emotional partnership for deeper learning. Culturally responsive teachers take advantage of the fact that our brains are wired for connection. As they move through the work in this area, teachers build capacity to

* Establish an authentic connection with students that builds mutual trust and respect
* Leverage the trust bond to helps students rise to higher expectations
* Give feedback in emotionally intelligent ways so students are able to take it in and act on it
* Hold students to high standards while offering them new intellectual challenges

#### **Practice Area III: Information Processing**

The third practice area focuses on knowing how to strengthen and expand students’ intellective capability so that they can engage in deeper, more complex learning. The culturally responsive teacher is the conduit that helps students process what they are learning. They mediate student learning based on what they know about how the brain learns and students’ cultural models. This practice area outlines the process, strategies, tactics, and tools for engaging students in high-leverage social and instructional activities that over time build higher order thinking skills. Moving through this area, teachers learn how to

* Understand how culture impacts the brain’s information processing
* Orchestrate learning so it builds student’s brain power in culturally congruent ways
* Use brain-based information processing strategies common to oral cultures

#### **Practice Area IV: Community Building**

In the fourth practice area, we focus on creating an environment that feels socially and intellectually safe for dependent learners to stretch themselves and take risks. Too often, we think of the physical set up of our classroom as being culturally “neutral” when in reality it is often an extension of the teacher’s worldview or the dominant culture. The culturally responsive teacher tries to create an environment that communicates care, support, and belonging in ways that students recognize. As they move through this practice area, teachers understand how to

* Integrate universal cultural elements and themes into the classroom
* Use cultural practices and orientations to create a socially and intellectually safe space
* Set up rituals and routines that reinforce self-directed learning and academic identity

## **Chapter 2: What’s Culture Got to Do with It? (pp. 22-24)**

Culture, it turns out, is the way every brain makes sense of the world. That is why everyone, regardless of race or ethnicity, has a culture. Think of culture a software for the brain’s hardware. The brain uses cultural information to turn everyday happenings into meaningful events. If we want to help dependent learners do more higher order thinking and problem solving, then we have to access their brain’s cognitive structures to deliver culturally responsive instruction.

So, in this chapter, we start with building our awareness of the three levels of culture.

### **Levels of Culture**

Culture operates on a surface level, an intermediate level or shallow level, and a deep level.

#### **Surface culture**

This level is made up of observable and concrete elements of culture such as food, dress, music, and holidays. This level of culture has a low emotional charge so that changes don’t create great anxiety in a person or group.

#### **Shallow culture**

This level is made up of the unspoken rules around everyday interactions and norms, such as courtesy, attitude toward elders, nature of friendship, concepts of time, personal space between people, nonverbal communication, rules about eye contact, or appropriate touching. It’s at this level of culture that we put into action our deep cultural values. Nonverbal communication that builds rapport and trust between people comes out of shallow culture. This level has strong emotional charge. At the same time, at this level we interpret certain behaviors as disrespectful, offensive, or hostile. Social violation of norms at this level can cause mistrust, distress, or social friction.

#### **Deep culture**

This level is made up of tacit knowledge and unconscious assumptions that govern our worldview. It also contains the cosmology (view of good or bad) that guides ethics, spirituality, health, and theories of group harmony (i.e., competition or cooperation). Deep culture also governs how we learn new information. Elements at this level have an intense emotional charge. Mental models at this level help the brain interpret threats or rewards in the environment. Challenges to cultural values at this level produce culture shock or trigger the brain’s fight or flight response.

At the deep cultural level, our brain is encoding itself with the particular worldview we will carry into our formative years. Two people from different cultures can look at the same event and have very different reactions to it because of the meaning they attach to the event based on their deep culture…one’s culture, especially one’s deep cultural roots, is part of how the brain makes sense of the world and helps us function in our environment. This worldview continues to guide out behaviors even when we change our geography…

Deep culture is like the root system of a tree. It is what grounds the individual and nourishes his mental health. It is the bedrock of self-concept, group identity, approaches to problem solving, and decision making.

## **Chapter 3: This Is Your Brain on Culture (pp. 46-50)**

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, 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. 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 well-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 subtle, everyday verbal and nonverbal slights…which communicate…negative messages to people of color [and those from other nondominant groups] based solely on their marginalized group membership.

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 do not 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.

1. *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 oxytocin 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.

1. *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 education 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.

1. *Attention drives learning.*

Neuroscience reminds us that before we can be motivated to learn what is in front of us, we must first pay attention to it. Every brain’s RAS [reticular activating system] 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.

1. *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…to learn new content or skills, the brain figures out where to make 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. From there we must construct culturally based connections…between the existing schema and the new content.

1. 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 socioeconomics, we see that they often get a “watered down” curriculum that doesn’t require higher order thinking. Consequently, they don’t build the capacity to do higher order thinking on their own. 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 not stimulate brain growth. Instead, challenge and stretch come with learning the moves to do more strategic thinking and information processing.