Enhancing Intercultural Learning Through the Principles of Educational and Cultural Neuroscience

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Principle: Pattern-recognition allows us learn cultural elements.
• Humans are born with pre-wired capacity to recognize and create patterns (Goldberg, 2005). This is a survival mechanism that helps us organize and make sense of the incoming information.
• This capacity also allows us to learn cultural elements, such as language, traditions, and values (Chiao, 2009).
• By being consistently exposed to these elements, we develop neural networks that guide our thinking and behavior and allow to survive in a particular environment (Roepstorff, 2010).

Applications for Educators:
• Prior to intercultural experiences, ask students to reflect on their own cultural patterns before introducing them to patterns of a host culture. Explain that they have developed patterns of thinking and behavior growing up in their culture and it will take time for their brains to rewire.
• When abroad, engage students in pattern-recognition activities where students can look for patterns of behavior in people and then compare them to patterns of behavior in their culture.
• Upon return, create opportunities where they can continue strengthening newly developed neural networks and practice what they have learned (e.g. presentations/writing pieces about their experiences, informal gatherings, etc.).

Principle: Learning engages the entire physiology.
• Emotions - People do not forget emotionally charged memories (Cerone, 2006). Positive emotions lead to dopamine production, negative emotions - cortisol production (Zull, 2006).
• Sleep – during sleep new information gets “settled” in the brain. Persistent sleep deprivation causes an increase in blood levels of the hormone cortisol that reduces one’s ability to focus and impair memory (Sousa, 2012).
• Exercise – physical movements increase brain amine levels, which can help improve attentional focus (Jensen, 2005).
• Nutrition – Food must supply the nutrients necessary for learning, which include water, proteins, unsaturated fats, complex carbohydrates, and sugars (Jensen, 2005).

Applications for Educators:
• Provide safe and positive environment for learning.
• Do not overwhelm students with activities, especially during the first days in a new environment. Build in time for rest so they can “digest” new information.
• Make sure students eat nutritious food and stay hydrated.

References