Understanding the Cultural and Linguistic Differences in Students

by: Kathleen Leos

It is often stated that, 'a picture is worth a thousand words', but in this case, it is much more. According to Dr. Denise Park's edu-nuro findings, published in Social Cognitive and Affective Neuroscience, (2010), 'different cultures perceive and respond to the same stimuli, differently, based on cultural influences.' (1) The study asked students in China and in America to describe a picture of an animal situated within a complex background. Learners from China described the entire background of the picture with less emphasis on the animal while learners in the US described only the animal ignoring the background within which the animal was photographed. Dr. Park discovered that cultures actually see the world differently and those differences are clearly visible using brain imaging. "The data suggest that people see different elements of pictures based on cultural perspective." (2) In effect, East-West learners literally see things differently which has major implications for cross-cultural communication and learning. What may be important to learners in one culture may not hold the same level

of import to learners in another. Information processing and prioritization depends on the students' cultural context and experiences.

Another study analyzed how students in 'eastern' v. 'western' cultures view themselves. High school students educated in typical US classrooms place a greater emphasis on individual thinking and see themselves as independent decision-makers. Whereas, students in China and Japan identify themselves as interdependent or part of a group. There is a greater emphasis on group or 'collective' decision-making as opposed to individual problem-solving. (3)

Humans share similar basic brain architecture or structural framework and developmental stages. However, culture wires the brain, defines who we are, develops identity, impacts behavior and guides how and what we learn. In other words, learning rooted in brain function, is influenced by culture and culture is impacted by the brain's perception and interpretation of culture. How individuals process information, think and communicate is the product of culture and experiences.

Neuro-research on culture, experiences and the environment illustrate how these elements shape the developing brain's neural circuits or connectors which determine an individual's learning process throughout a lifetime.

Recently, the Education Neuroscience Foundation (ENF) conducted professional learning workshops to help educators understand how culturally and linguistically diverse students can be included in regular classroom instruction. Using neuroscience findings focused explicitly on culture, experiences and the environment, ENF designed a Theory to Practice approach to 'teaching and learning' for educators to adapt to any educational setting.

Understanding how students from diverse cultural backgrounds perceive their surroundings and interpret the world, changes our expectations and instructional approach. Values, customs, norms and language are critical elements to consider when organizing daily lessons.

At least six weeks in advance of a new school year, request all background information on each student enrolled in your class. This includes demographic information, state standardized assessment data, item level data analysis from each assessment administered the prior year (4). Comprehensive and meaningful student

information from valid assessments helps organize the first six weeks of instruction, eliminates guessing and uses instructional time, effectively.

Organize students into multi-level learning groups, linguistically and academically, based on assessment data. Students are eager to share what they know and learn from others. Immediately, establish an 'I DO, WE DO, YOU DO' expectation to support students' taking responsibility for their learning while validating the students' language and learning level.

Storytelling is an effective, inclusive strategy deeply rooted in brain biology for learning. Divide the class into heterogeneous, multi-level groups. Have each student share their personal story. Develop the story into a dramatic or comedic play. Classmates write the narrative, are assigned character roles, memorize lines and dramatize the story for the class. Take turns. This strategy can be applied to academic content and used throughout the year. Limitless possibilities!

Project Based Learning (PBL) is an interactive approach to teaching and learning which can fully engage all students in the learning process if carefully designed and executed. PBL supports developing executive function skills and attributes such as critical thinking, communication, collaboration and creative problem-solving necessary for college and career success.

Recently, the National Academy of Sciences published, How People Learn II: Learners, Contexts and Cultures, 2018 which discusses the pros and cons of PBL. (5) Regardless, the opportunity for deep foundational learning based on brain research with project-based learning is evident. The approach applies to and includes all students in any educational setting worldwide.

Finally, provide each and every student an opportunity to teach either in groups or individually. We know that learners understand the material if they can teach it. Students from diverse cultural backgrounds may enjoy teaching in groups as well as individually.

Annually, schools host international fairs and dinners, read multilingual books, label objects in classrooms in multiple languages, and solicit volunteers from multicultural communities in an attempt to engage students and families from diverse cultural and linguistic backgrounds in the learning process. But do these peripheral activities effectively address how all students fundamentally learn?

We leave you with the question above and hope the information shared here sparks a desire to analyze your school environment, ask questions, formulate a new direction, lead change where needed. education neuroscience, in its infancy, does not have all the answers. It is not the ‘silver bullet’. It does, however, encourage us to think, question, and act armed with a body of empirical knowledge behind us.

References:

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