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Book Review: The Social Neuroscience of Education: Optimizing Attachment & Learning in the Classroom by Louis Cozolino

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The Social Neuroscience of Education: Optimizing Attachment & Learning in the Classroom by Louis Cozolino. New York: W.W. Norton & Company, 2013. 409 pp. ISBN 978-0-393-70609-3.

Louis Cozolino challenges the “one-size-fits-all-model” of education in his most recent book, *The Social Neuroscience of Education: Optimizing Attachment & Learning in the Classroom*. Cozolino provides a comprehensive understanding of how social neuroscience can be used to transform the way educators teach. Specifically, Cozolino emphasizes the importance of honoring the origins of one’s natural habitat, which is largely based on relationships. Cozolino introduces the concepts of “tribal classrooms” to the development of the human brain. According to Cozolino, humans function best within a “tribe,” which fulfill one’s basic need to feel part of a group and support feelings of security. Cozolino also outlines three major social neuroscience challenges in contemporary education that inhibit the development of the social brain: (1) schools use standardized testing as a measure of success, which perpetuates the “educational assembly line,” (2) teachers are not an interchangeable function of a mass production line, and (3) the world is changing so quickly that educators are uncertain of how to prepare students for an unpredictable future (p. xvi). Drawing from his extensive experience as a veteran therapist and an educator, Cozolino challenges the idea that academically unsuccessful students are “unteachable.” Specifically, Cozolino outlines 12 lessons that empower teachers and educate students.

The importance of relationships regarding social neuroscience and education is developed within four sections of the book. Cozolino begins by providing a comprehensive overview of *Brain Basics* and explains relevant attachment theories. He contrasts humans’ more than 100,000 year history of functioning in small tribal societies (which value equality, cooperation, shared responsibilities, and democratic decision-making) with the present industrial society that uses an assembly line model to produce a predetermined product and reward students for retaining information and good citizenship (p.xvi-xvii). Small tribal groups required humans to bond and learn survival skills through attachment-based apprenticeships; these experiences shaped people’s first set of primitive social instincts and need for attachment. Cozolino emphasizes how teachers can first connect with, and then teach “unteachable students.” Moreover, an educator’s ability to understand students’ primitive social instincts is the beginning of a transformational process, as “reading and reacting to other people’s behaviors, emotions, and attitudes have been hardwired into our brains. We are not only wired to connect, but we are also wired to attune to, resonate with, and learn from others” (p.13). Cozolino argues that the need to attune to others for

survival not only makes the human brain the most dependent and adaptive brain on earth, but also is at odds with the current education system.

Cozolino provides examples of how the educational system activates neural synapses for optimal learning or creates high stress levels that divert a student's brain energy toward the fight-flight survival systems, shutting down the learning process (p.74). A key component of Cozolino's approach to increase optimal learning is first understanding that there are three complex functions of survival in the human brain--appraisal, navigation, and learning. Cozolino makes an important point that these functions of survival-based behavior have co-evolved and operate as a unit which should not be seen as separate from classroom learning:

This is why thinking and feeling are so intertwined...why stressed brains are resistant to new learning. Thus, there is no cognition without emotion, and it is impossible to separate the internal experience of the learner from the material being learned. (p.73)

Educators who are aware of the "neuroanatomy and neurochemistry of learning and memory" (p.73) can create an environment that tends to the brain's "primitive survival circuitry" and provides a balance between arousal and stress, encouraging optimal learning.

Effective school "tribal chiefs" such as Marva Collins, Professor Jamie Escalante, Erin Gruwell, Principal Clark, and others show the power that an attachment-based teaching strategy has on breaking the cycle of "core shame" and insecure attachment in children. Following nature's example, these "tribal chiefs" attune to the needs of their students to help them feel a part of a "tribe," by supporting security, love, and appreciation within their schools. Cozolino uses the work of Professor Rafe Esquith to illustrate how implementing strategies that provide constant new experiences, use microeconomics, and sports to engage students in a set of experiences that set high expectations and push them to meet new challenges. Cozolino offers strategies to utilize play, laughter, and storytelling to reconnect with the social brain and cultivate the tribal community.

Perhaps most importantly, Cozolino highlights how the human mind, brain, and body are interwoven and advances the need for comprehensive synergy between them, "When we walk, run, or exercise, the large muscles in our legs secrete neural growth hormones that cross the blood-brain barrier to support neuroplasticity and learning" (p.228). Overall, Cozolino provides evidence-based strategies on how to reach the "unteachable student" and meet the needs of the human brain by utilizing the mind body connection. Throughout the text, Cozolino offers various areas for future research and is aware that there is still much to learn about how the brain functions.

The topics discussed by Cozolino are not only central to advancing educational practices, but also current to the development of brain science.

President Obama recently announced his administration's plan to fund the Brain Activity Map project, known as Brain Research through Advancing Innovative Neurotechnologies (BRAIN), with \$100 million over the next 10 years (Young, 2013). Cozolino's *The Social Neuroscience of Education: Optimizing Attachment & Learning in the Classroom* comes at a time when the conversation about developing technologies to understand how the human brain informs emotional responses, learning processes, PTSD, and Alzheimer's is being discussed on the national platform (Markoff, 2013). There is an ease to which Cozolino's explains social neuroscience and applies it to the most vital aspect of human development—education. Educators, neuroscientists, and anthropologist will greatly benefit from understanding the relationship between the human brain development and the student learning process; further supported by Cozonlin's learning strategies for students.

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Reviewer

Citlali Vasquez-Ramos has spent six years providing of school counseling services for first generation college-bound students and families. She is currently the Director of Community Programs at Iridescent, engaging underserved families in science exploration. Citlali is working to establish a Parent Leader Program for Iridescent that will train parents on how to facilitate science inquiry at home and empower them to advocate for science programming in their communities. She holds a masters degree in Counseling Psychology with an emphasis in School Counseling and a Pupil Personnel Services Credential from the University of San Francisco. Her research interests are in the areas of education and psychology.