

Book Review**Enriching the Brain**

by Eric Jensen

San Francisco: Jossey-Bass, 2006

Reviewed by Cynthia C. Coleman*University of the Pacific*

Enriching the Brain, a reader-friendly affirmation of real-world learning, offers enthusiasts in the educational field an unequivocal insight into powerful tools for brain enrichment that enhance learning, memory, behavior, and the capabilities to deal with everyday life challenges. Recognized for his translation of neuroscience to classroom applications, Eric Jensen views the brain as a powerful, malleable organ. His user-friendly illustrations provide educators and parents a framework to facilitate the understanding of the enrichment of the brain's capacity.

Jensen defines enrichment as "a positive biological response to a contrasting environment which can be measured, synergistic, and open to change" (p. 277). In maximizing brain potential, Jensen explains there must be a contrast in environments for enrichment to occur whether it is for new learning or for those who have been exposed to trauma, abuse, or negative experiences. To illustrate, a child who lives in poverty is affected by many physical, emotional, social, and psychological issues. Small positive changes in a child's negative home environment will alter the brain. Increased lighting and a safer place to study, or other low-cost modifications are examples of a contrast that will enrich his learning capability. The use of contrast is essential in the enrichment of brain processes.

Jensen's informal approach facilitates a sense of understanding of this complex function of enrichment. He lists seven fundamental factors that enrich the brain: physical activity, meaningful learning, coherent complexity, stress relievers, social support, good nutrition, and sufficient

Cynthia C. Coleman is a doctoral student in the Benerd School of Education at the University of the Pacific, Stockton, California.

time. The author recognizes that the study of brain enrichment is a complex subject. A major portion of Jensen's work is dedicated to providing evidence to support the notion that educators and parents can affect brain functions.

The text, divided into ten chapters, includes an overview of the "fixed brain myth" (the premise that every child is born with a fixed allotment of brainpower), essentials of the seven intelligence models, increased IQ levels, brains at risk, how schools can implement enrichment techniques, and why enrichment should begin immediately for youngsters. Jensen's purpose is to describe an enrichment approach that is beneficial for education and he does so by laying the groundwork for enrichment based on four brain principles.

Principle One

The complex interaction of the mind, emotions, and the body provides unique and dynamic behaviors moment by moment. This combination enables the reader to understand the importance of brain alterations with respect to the maximization of brain potential. A wide variety of variables, such as connectivity, responsiveness, and learning efficiency can influence learning and academic achievement. Using neuroscience research, Jensen validates the theory that all students regardless of innate qualities can be enriched in the proper setting. When appropriately challenged, both at-risk and gifted students excelled. The students who were challenged also were characterized as being emotionally stable, having higher high school graduation rates, and more likely to attend college than those who were not.

Jensen indicates there is no evidence that higher standards will produce competent learners unless there is improvement in teaching quality, targeted resources, as well as opportunities for the less fortunate. Standards are an instrument used to gain political and social power of the teaching profession yet standards ignore the major concerns of education: poverty, lack of opportunity and unequal funding for students. Readers should be driven to examine this book for no other reason than to seek encouragement during the current high-stakes testing epidemic.

Principle Two

The second brain principle describes one's composition (body-brain system) as both genetic and environmental. By combining genetics and environment, Jensen provides a comprehensive, yet simplified depiction of the body-brain system in a manner that enables those outside of the

educational field to acquire a foundation for the educator's efforts. A balance between working hard in life (environment) and an individual's DNA (genetics) is defined by Jensen as "life quotient" theory. Jensen explains "life quotient" theory as one of the seven intelligence models. A high life quotient indicates a person has the cognitive ability, talents, and real-world motivation to succeed in the world. The brain and one's genes can be influenced. An example of life quotient theory is Jack Nicklaus, presumably one of the all time great golfers and his son, Gary, who is a pro golfer as well. Gary may never achieve his father's status because, based on Jensen's premise, there are no "golf genes." However, real world motivation and varied experiences make him a close second.

Principle Three

The third brain principle asserts brains are not only influenced by cognitive aspects, but also by social, environmental and developmental factors. Intelligence is highly dependent on circumstances and life events. The following example suggests one's life influences one's brain. In general, children from low-income families experience more negative life circumstances than middle class children. Their experiences may include living near toxic waste sites, exposure to pesticides, disabilities, limited social conversation, and single parents. These same children also tend to move frequently, experience stress, spend numerous hours in front of the television, and eat less healthy food. Development of children who are at high risk can be positively changed by the application of brain enriching behaviors.

Principle Four

The fourth brain principle acknowledges the importance of exercise, stress, and learning. Physical activity causes changes in blood flow. The management of stress levels protects the brain from stress and allows it to mend rapidly. Novel, challenging and meaningful learning experiences develop cell structures that create larger neurons, which, in turn, lead to dendrite growth and augmented neural processing.

Conclusion

The book has a broad potential audience. It should be significant to any reader who has an interest in improving the quality and the direction of education. Education programs must be structured in a way to provide students with challenge and contrasting environments.

The content of *Enriching the Brain* is a protocol for educators and

parents to capitalize on children's potential. As enrichment pedagogy, Jensen's work offers teachers a way to think about creating contrasting learning conditions as well as opportunities that stimulate and promote learning. Jensen points out that enrichment is about educational practices that are often already in place. A core of enrichment possibilities; inquiry activities, interest centers, multiple texts, supplementary materials, and computer programs stimulate and provide contrasting learning conditions, and are available to teachers. In classroom assessment, Jensen suggests teachers consider gathering student data through student content journals, rubrics, learning contracts, graphic organizers, and performance-based portfolios. Finally, Jensen recommends flexible social groupings and reciprocal teaching as ways to lower stress level, increase student confidence and boost content capacity.

Establishing enrichment opportunities enhances a student's love for learning, a hunger to learn, and an appetite for mental nourishment. The way we teach or run our schools can dramatically influence the brains of all learners. Jensen suggests, "unless we as educators and parents grasp this paradigm shift and act on it, we are committing malpractice" (p. xi).