#  **Brain Appropriate Practices in Early Childhood Settings**

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1. **Children’s brains are unique.** **Although generalizations can be made about brain development, each brain goes through these processes and forms connections that are unique for that individual.** No two brains are organized the same, even in identical womb mates! Standards are meaningless to individual brains. Individualizing early childhood practices for children’s needs is brain appropriate. Culture, parenting styles, teaching practices, economic status, and education intertwine to affect how children’s brains process information and prepare for school success.

1. **Children’s brains are poorly designed for formal learning.** The brain is designed for survival and to learn what it needs. The brain can usually learn what it wants when choosing and when survival is threatened but not necessarily for the sake of poorly defined or misunderstood educational goals. We can condition the brain to want to learn by using appropriate practices that provide many opportunities for choice. Experience with using a variety of learning centers increases the chances that children will be able to use and experiment with items in new and unique ways. Choice, variety, and flexibility are exciting and stimulating for the brain.

1. **Children’s brains are social brains. The brain grows and develops from interactions and experiences with others. Isolation, apathy, neglect, poor stimulation, and rejection deprive the brain of the necessary stimuli to make healthy connections. Humans learn in the context of society, family, and community.** Native culture and language and fundamental for social brains. Babies have difficulty attaching to caregivers who do not respond to their socialization cues. The mirror neuron system thought responsible for social learning thrives on interpersonal contact and models to shape brain-appropriateness. When adults use language and appropriate demonstrations of empathy, sympathy, support, and recognition, developmentally appropriate social skills are encouraged which are the underpinnings for learning. Learning centers and cooperative curricula are more in synch with the brain’s natural design for social learning.

1. **Children’s brains innately make meaning to establish networks of understanding**. The brain is run by patterns, not by facts. Experience helps the brain make templates of possible actions to be used for future problem-solving. Role-playing**, dramatic play, field trips, and a thematic curriculum are ways this brain strength can be used in early childhood settings.** Authentic curricula based on real experiences are the most brain-appropriate because these strategies are meaningful to children and, therefore, have some emotional content to facilitate long-term storage. Brains are always seeking meaningful relationships with events.

1. **Emotions run the brain.** Learning attached to high emotional content is easier to store and retrieve. Emotions help determine what is important. Rituals soothe children’s brains. Positive and productive rituals can reduce stress and allow the reptilian-like limbic system brain areas to be more productive. Greeting and departing rituals, rhymes and music, and mealtime rituals are ways to soothe the impulsive reptilian brain. Prosocial rituals and customs are practiced and reinforced during daily activities. The body, brain, and emotions are all intertwined shaping who we become.

1. **Stress and threat cause children’s brains to malfunction and have difficulty storing new learning and retrieving stored information.** Children under stress are at risk for developing many problems associated with high cortisol levels. Emotional and social growth may be impaired by a stressed limbic system. Brain-appropriate environments for children reduce stress and threat. Choice, the freedom to explore, and “free” play are brain-appropriate practices that can reduce stress and improve learning and memory. Loss of approval and helplessness are brain threats that inhibit learning threats. Exclusion, name-calling, racial profiling, and inappropriate curricula for the developmental stage are stressors. Threat, stress, and trauma may change the physical architecture of the brain. The brain responds to stress and threats with a set of predictable neurobiological (physical), neuro-endocrinological) and neuropsychological (behavioral) changes.
2. **Children’s brains are designed for multi-path, simultaneous learning**. Using visual, auditory, kinesthetic, conscious, and non-conscious pathways facilitates learning. Appropriate learning centers and child-initiated learning helps take advantage of these brain processing strengths. One-dimensional learning with a contrived curriculum and limited responses may not give the brain enough information for adequate storage and retrieval. Brains are masterful at creating and recognizing patterns. Experiences that happen together wire the brain for efficient and quick responses.

1. **All learning in** **children’s brains is mind-body.** The learner’s physical state, health, posture, and nutritional status affect what is learned. Development proceeds from head-to-toe and from gross to fine motor skills. Educating children appropriately means understanding the learner’s state and learning what caregiver actions are appropriate. For example, if a child has not been fed and comes to school hungry, it is not appropriate to continue the learning program until the child’s physical need is addressed. Dehydrated brains cannot learn well. A child’s physical movement supports academic learning by increasing blood oxygen that creates brain connections that can be used for learning. **Exercise is Academic!**

1. **Cycles and rhythms are important to learning.** The brain has its ups and downs, and hormones and nutrients fluctuate. Therefore, expecting the same level of attention from learners is not brain-appropriate. Brain resting cycles may determine what a child is motivated to do. Demanding the attention of a resting brain is not appropriate or effective for learning. Sex hormone cycles also affect learning and memory. For example, the optimum time to teach early sound recognition, syntax, and grammar is during the prenatal period through 24 months. The optimum time for second language learning is the prenatal period to age 10, with 3-10 being critical years for accent, grammar, and vocabulary.
2. **Children’s brains have natural cycles and rhythms of growth, rest, and development**.

The most rapid period of growth is the prenatal period until about one year of age. Other prime periods occur throughout early childhood and adolescence. Each brain growth spurt is an opportunity to support the acquisition of new skills. Brain-appropriate practices respect these rhythms and cycles. Development cannot be rushed!

1. **Children’s brains need stimulation to make new connections.** The human brain grows by encountering challenges, novelty, and feedback. Feedback should be valid and prompt with thoughtful praise**. Mild to moderate** challenge, frustration, boredom, uncertainty, apprehension, and anxiety can be learning triggers so monitor intervention and make it timely and appropriate. Brain-appropriate practices such as creative and dramatic play naturally stimulate many brain areas including problem-solving, social interaction, impulse control, and creative centers. The brain is the only organ that is organized by the experiences in the outside world. Rich and meaningful experiences increase brain connections. When the brain is not appropriately stimulated, the brain connections weaken and wither. The adage, “Use it or Lose it” operates here.
2. **Assessment of children’s brains is misleading**. Most of what is learned cannot be assessed using simple methods such as multiple choice and true and false tests. Often, a deep understanding of dynamic brain connections cannot be measured by pen and pencil tests. Observing children in natural settings participating in daily routines and play activities offer more appropriate ways to assess a child’s understanding.

**References:**

**Caine, R.N & Caine, G. (1994) Making Connections: Teaching and the Human Brain. Corwin Press http:// www.cainelearning.com/principles.html**

**Cort, Julia (Producer)** **25 January, 2005. Mirror Neurons. NOVA Science NOW. Available at: http:// www.pbs.org/wgbh/nova/sciencenow/3204/01.html**

**Jensen, E. (2002). Teaching with the Brain in Mind. Corwin Press**

**Schweinhart, L.J (2008). Creating the Best Kindergartens: Five Ingredients for Long-Term**

**Returns on Investment. Education Week. Available at: http://www.edweek.org/ew/ articles/2008/03/19/28schweinhart.h27.html?print=1**

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