

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. 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.

2. **Assessment of children's brains is misleading.** Most of what is learned cannot be assessed using simplistic methods such as multiple choice and true and false tests. Often, deep understandings 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.

3. **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 learn what to do 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.



2. **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. 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 appropriate responses. When adults use language and appropriate demonstrations of empathy, sympathy, support, and recognition, good social skills are encouraged which are the underpinnings for learning. Learning centers and cooperative curriculum allow the correct use of the brain's natural design for social learning.

3. **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 thematic curriculum are ways this brain strength can be used in early childhood settings.** Authentic curriculum based on real experiences are most brain appropriate because these strategies are meaningful to children and, therefore, have some emotional content to facilitate long-term storage.

4. **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 the daily activities.

5. **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.

6. **Children's brains are designed for multi-path, simultaneous learning.** Using visual, auditory, kinesthetic, conscious and non-conscious pathways facilitate learning. Appropriate learning centers and child-initiated learning helps take advantage of these brain processing strengths. One dimensional learning with contrived curriculum and limited responses may not give the brain enough information for adequate storage and retrieval.

7. **All learning in children's brains is mind-body.** The learner's physical state, health, posture and nutritional status affects what is learned. 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 continue the learning program until the child's physical need is addressed. Dehydrated brains cannot learn well. Physical movement supports academic learning, increases blood oxygen, and helps create brain connections that can be used for learning. **Exercise is Academic!**

8. **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 attention of a resting brain is not appropriate or learning effective. Sex hormone cycles also affect learning and memory.

9. **Children's brains have natural cycles and rhythms of growth, rest, and development.** The most rapid period of growth is prenatally until about one year of age. Other prime periods occur throughout early childhood and adolescence. Each brain growth spurt is an opportunity support the acquisition of new skills. Brain appropriate practices respect these rhythms and cycles. Development cannot be rushed!

10. **Children's brains need stimulation to make new connections.** The human brain grows by encountering challenge, 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.

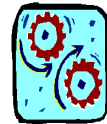
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