

Documentary

The case for early child development programmes

In *Brain Matters* by Carlota Nelson, the age-old question is asked: “Why is it that some children thrive while others do not? Is it a matter of genetics, IQ, socioeconomic background, or education?” According to researchers, the answer is a surprising mix of new-age breakthroughs and some classical wisdom.

The documentary begins by explaining how the young brain is optimised for learning. The young brain can create over 1 million neural connections every second, and new experiences lead to the creation of new connections. As a result, the baby’s brain is described as “experience expectant”, since its neural machinery is ready to be programmed for language, culture, values, etc. However, the quality and frequency of new experiences during these early years are vital in building a powerful brain. The documentary further elaborates that the first 3 years are the “magical years of intervention” and states that these changes can last a lifetime.

However, one wonders what is the role of environment, especially socioeconomic status? Nelson challenges long-held perceptions by highlighting the findings of the Abecedarian Project. This was a five-decade long experiment in which 111 children born into poverty in Orange County (NC, USA) were assigned to one of two groups. Both groups received basic support and nutrition, but the experimental group received specially designed educational child care. The interventions consisted of high-quality interactions between specially trained teachers and children that were “frequent, intentional, and individualized”. Subsequent follow-ups have shown that the experimental group scored an average of 15 points higher on IQ tests, had higher earned income, higher job prestige, and higher age at birth of the first child. The documentary also reported that other studies have shown that children who receive quality early childhood education are more likely to go to college, are four times more likely to graduate from college, have better and more skilled jobs, and are healthier, than those who did not receive such education. They are also less likely to end up in jail or become depressed.

The documentary further elaborates that there are four “brain boosting experiences” that are essential during these early years. The first is having a nurturing, responsive caregiver who engages in “serve and return” interactions. Infants must be able to expect a response (return) when they put a request (serve) for interaction. The second is language. Between age 3 and 6 months, infants can discriminate between sounds. By 11 months, they are prepared to learn any language. Parents need to linguistically stimulate their infants by talking to them so they can be cognitively and intellectually stimulated.

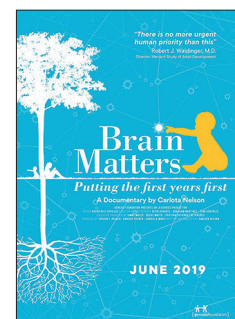
“Motherese” or “parentese” (infant-directed speech) is highly encouraged, as high-pitched, pleasant, slow and deliberate, and clear speech at age 11 to 14 months predicts the number of words a child will produce at 2 years old, regardless of socioeconomic status.

The third experience is play, which helps a child develop social skills such as cooperation and getting along with others. The emphasis of play must be on imagination and relaxation. Exposure to music is also strongly encouraged as it is associated with improved ability to do mathematics and read, physical development, and also being helpful and cooperative. Learning to play an instrument or singing for 2 years in early childhood can lead to the creation of new connections in the brain that can be sustained across the lifespan. The fourth is proper nutrition. The benefits of breastfeeding include improved growth and development, a stronger immune system, and better cognition. Breastfeeding also improves the mother’s health and becomes a means of attaching and bonding. Deprivation of proper nutrients and vitamins can “lead to a life sentence of underachievement and underperformance”.

On the basis of these findings, early child development (ECD) activists believe that these early years provide the best opportunity to positively shape a child’s future. They are spearheading a global movement that looks to implement interventions in classrooms that promote self-regulation (delaying immediate gratification) and higher executive functioning (avoiding distractions and focusing on achieving goals). Studies have shown that children who are better at delaying gratification are less likely to use drugs, less likely to have lower self-esteem, and are less likely to bully in middle life. They are also more likely to attain higher education. ECD activists state that despite the increased investment in education, benefits are limited due to children being underprepared for the learning environment. 50% of the world’s children are under extreme stress, which leads to deficits in learning, inquisitiveness, confidence, and meta-cognitive skills. However, studies have shown that children who have sensitive and consistent caregivers do not show the “cortical thinning” (ie, loss of brain connections) associated with poverty. Hence, they argue that investments in ECD programmes will not only improve educational outcomes, but also lead to higher tax revenue, lower expenditures on welfare programmes, increased earnings, reduced crime, and higher quality of life.

Brain Matters makes a compelling and pragmatic argument for ECD programmes. The question is: will policy makers listen?

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For more on the **Abecedarian Project** see <https://abc.fpg.unc.edu/abecedarian-project>