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Cognitive Development in Childhood

Cognitive development is an important process in life that follows us from infancy all the way to adulthood. Cognitive development marks the construction of thought processes such as remembering, problem solving, and decision-making (Wells). The brain is constantly maturing at alarming rates from birth to adulthood, with the most maturation occurring early on in life. As young children grow, they mature both mentally and physically, however, since all children mature at different rates it is difficult to determine how fast a child's mind is developing at certain ages (Oswalt). The next phase of development is referred to as middle childhood, where there is much advancement in cognitive, social, emotional, and physical development. These cognitive developments create experiences and groundwork required to become successful in adulthood (Mah and Ford-Jones). Jean Piaget, a Swiss psychologist, created a Theory of Cognitive Development, which explains that children are not born with intelligence; rather it is gained through maturation, interaction, and experiences (McLeod). During the process of cognitive development, a child is most supported by a parenting style known as responsive parenting (Landry). The relationship between a child and parent is the biggest influence on a child's cognitive development.

Responsive parenting can be very influential in a child's cognitive development. It has been proven that this form of parenting promoted normal development for high-risk children, such as children from low-income families and premature babies. However, unresponsive parenting styles may jeopardize a child's cognitive abilities, especially for high-risk children (Landry). A simple way to practice responsive parenting is to accept and provide positive affection during the process of cognitive development. When this praise and acceptance is used repeatedly, a bond is created between the child and the parent, which allows the child to instill their trust on their parents. This engages the child to continue learning from the parent. By creating a bond of trust between parent and child, the parent is able to engage his or her child in new experiences and activities. From a socio-cultural viewpoint, responsive parenting has been known to promote higher levels of learning because the parent provides a structure for the child's immature skills and cognitive abilities (Landry). This form of parenting can also be referred to as parental scaffolding. This is when the child is engaged in problem-solving activities, which promote a child's sense of self-regulation (Landry).

Swiss psychologist, Jean Piaget, believed there were considerable differences in the thought processes between adults and children, which led him to create Piaget's Theory of Cognitive Development (McLeod). His theory explains that children are not simply born with intelligence, but that it is gained through maturation. Piaget focused this theory on children and recorded their progress in cognitive abilities at certain stages. By creating stages, he was able to determine the process of the infant to child, child to adolescent, and adolescent to adult. Piaget believed, "cognitive development is a progressive reorganization of mental processes as a result of biological maturation and environmental experience" (McLeod). Piaget's Theory of Cognitive Development includes four stages of advancement, the stages include (1) sensorimotor stage (birth to age two), (2) pre-operational stage (age two to age seven), (3) concrete operational stage (age seven to age 11), and (4) formal operational stage (age 11 to adolescence and adulthood) (McLeod). Although every child goes through the same stages, they all mature at different rates and ages. The sensorimotor stage focuses on object performance, which means that even if an object disappears, it does still exist. During the pre-operational stage, children master the ability of thinking of two things at one time. This allows a child to make either a word or object have more than one meaning. The beginning of logical or operational thinking is marked by the concrete operational stage. This allows a child to mentally figure things out rather than physically (McLeod). The final stage is the formal operational stage, which begins around age 11 and lasts until adulthood. During this time is when children develop the ability to think abstractly.

As children begin to grow, they mature both mentally and physically, however, this maturation occurs at different rates for each child. At this phase of development, known as the pre-operational stage, children are learning new skills to help them interact with their environment and engage in new experiences or activities (Oswalt). They begin learning new ways to process, understand, and store new information. During the sensorimotor stage, children begin to broaden their imagination and they turn playtime into a fantasy (Oswalt). For example, a little girl may pretend to be a princess who lives in an elegant castle or a little boy may pretend he is a superhero. This is where parents play a key role in development. Children's playtime fantasies will become more elevated with a sophisticated plot with more characters and elaborate rules they made up. As a parent, it is important to accept and encourage their playtime fantasies. When children make up these fantasies or start "pretend playing," they are developing their imagination. According to Jean Piaget, "playing isn’t just fun, it is an important part of brain development" (Oswalt).

The next phase of development occurs between the ages of six and 12. This period is known as middle childhood. Most research is centered on early adolescent development, which is why middle childhood is known as the "forgotten years" (Mah and Ford-Jones). During middle childhood, there is much advancement in cognitive, physical, social, and emotional abilities. At this point in a child's life, their mind becomes more refined. The rate at which a child's brain develops relies heavily on the environment they are exposed to. The cognitive abilities gained during middle childhood help create the groundwork required to be successful in adolescence and adulthood (Mah and Ford-Jones). During middle childhood, the brain is constantly maturing at alarming rates. Myelination begins to occur, which increases conduction speed and synaptic transmission between the left and right hemispheres (Mah and Ford-Jones). This process increases the brain's activity and response times. When children are younger, they show scattered patterns of activities, while older children are more focused and able to focus on one activity at a time. This occurs because as children develop cognitive abilities, they are able to dictate which regions of the brain to activate for certain activities. The rate at which this process occurs is dependent on what a child has experienced. Children are more likely to reach their full cognitive ability when they are exposed to stimulating environments, experiences, and interactions. During middle childhood, young children progress into young, independent individuals. Between the ages of seven and 11, children begin to gain control of their cognitive control (Mah and Ford-Jones). This allows children to understand and process information more efficiently.

During cognitive development, advancements in the brain refer to the growth and development of intellectual abilities such as thinking and reasoning ("Cognitive Development"). Between ages six and 12, children begin to use concrete operations, such as adding, subtracting, and alphabetizing. The next stage of development is adolescence and it lasts from ages 12 to 18. This is the beginning of complex thought processes known as formal operations. Formal operations include abstract thinking, the ability to form ideas and questions, the ability to compare ideas and opinions, and critical thinking ("Cognitive Development"). During the ages of 12 and 18, developing teenagers transition from concrete to formal operations. Developing teenagers begin to use formal operations in their homework. In early adolescence, children become more involved at home, school, and in the community. Children begin creating long-term plans for their futures. They begin thinking of college and career paths for after high school, which heavily involves the support of a parent. Although teenagers are able to make their own decisions and think on their own, applying for jobs and colleges can be very stressful. This is why it is important for parents to be involved in all aspects of cognitive development in a child's life.

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