

# Human development notebook



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Brain and memory Principles and theories When a human child is born, their brain is not yet fully developed. This development takes place over time and involves neurological processes as well as environmental stimulation. Babies have all the neurons that they will ever have at the time of their birth.

Neurons are the structures that enable brains to store and transmit information (Woolfolk, 2010, p. 29).

The connectors which allow the information from the neurons to travel across the brain are not developed at this time, however. These fibers, called axons and dendrites, continue to mature throughout the early stages of the child's life. How frequently a particular section of the brain is stimulated determines the number and strength of the connecting fibers in that area. In areas of the brain where stimulation is lacking, a pruning process takes place to reduce the number of neurons active in those parts of the brain.

While scientists may differ on the exact timeline of human brain development, all seem to agree that people do develop at different rates, and while it happens gradually, the development of the human brain is a relatively orderly process (Woolfolk, 2010, p. 28). In the normal advancement of brain function, there are two distinct types of overproduction and pruning stages. The first is labeled experience-expectant. Its theory stipulates that certain areas of the brain are over-supplied with neurons expecting a large influx of stimuli such as the region of the brain which controls human visual input.

If this area does not receive the anticipated input, because of some form of sensory deficiency, whether physical or environmental, it will send the

neurons to another section of the brain where they may be more useful, such as the auditory processing center. The second category of overproduction and pruning is referred to as experience-dependent. As its name implies, this action is driven by the individual experiences of the child and relates to the specific circumstances of which the brain has been exposed.

An example of this would be the acquisition of a second language and the mastery of the unique pronunciation it entails (Woolfolk, 2010, p. 30). Issues and concerns When the brain fails to develop normally, a neurological disorder can present. One such disorder is autism. Autism is defined as a pervasive developmental disorder of children, characterized by impaired communication, excessive rigidity, and emotional detachment (<http://dictionary.reference.com/browse/autism>). Symptoms of autism are usually evident by age three and include but aren't limited to delayed language entire family of the person in which it presents itself.

The incidence of stress-related issues in parents of autism diagnosed children is higher than the norm. Siblings and parents of autistic children sometimes benefit from counseling to help cope with the various issues that arise while living with autism ([http://www.indeed.com/resources/autism/detail\\_autism.htm#155663082](http://www.indeed.com/resources/autism/detail_autism.htm#155663082)). Incorporating life skills and any job and social skills training that is appropriate for the level of the disorder is highly recommended for the child.

Studies indicated that early intervention is imperative, and that there is more positive advancement made in some cases in overall positive progression of the child's life skill and coping advancement if treatment is administered as

soon as an issue is detected (<http://en.wikipedia.org/wiki/Autism>). In some cases, symptoms of autism decrease with time and as adults, those persons are able to be self-sufficient but this is not the most often seen scenario.

Classroom impact Educators who have in their classroom a child dealing with autism have a number of challenges.

Depending on the severity of the disorder, there are processes which can be introduced into the classroom to make the most of the learning environment for all the children. Provided the child is in an inclusive setting, the teacher can assign a “buddy” to the child with autism as well as set up a “safe base” for the child to retreat to when the atmosphere in the classroom becomes too stressful for the child to cope with (Woolfolk, 2010, p. 144). Some other techniques for improving the learning experience of students with autism are structured teaching, speech and language therapy, social skills therapy, and occupational therapy.

Keeping a structured and predictable schedule is imperative when instructing a child with autism. The child will also, most likely, need some specialized classes in speech as well as instruction in appropriate social interaction, as one symptom of autism is a lack of comprehension of social norms. Educators need to keep in close contact with the team responsible for the student’s educational plan and diagnostic write-up to ensure that there are no large gaps in the educational programs suggested and the ones being applied.

Physical development Physical development is defined as changes in body structure and function over time (Woolfolk, 2010, p. 559). There are two

main principles involved in the physical development of humans. Normal human development progresses from the head down. When born, babies' heads are disproportionately large in comparison to the rest of their bodies. In fact, a baby's head is approximately one-fourth of the size of their entire body. Over time, the body size increases at a faster rate, so that in a normally developing human, the head will be approximately one-eighth of the overall body's mass.

When they are first born, babies must be held with their necks supported because they have very little control over their musculature structure yet. They cannot sit up or grasp objects. They can barely control their own hands and feet and when they do move them, they have no amount of significant accuracy in the motions. Over the first six months of life, most babies learn to control their neck muscles, then their arms and trunk, and finally begin gaining control of their legs. begin to rock on their knees as a pre-cursor to crawling.