

# Cognitivism

[Heim](#)
[Upp](#)
[Behaviourism](#)
[Cognitivism](#)
[Social Factors](#)
[Bibliography](#)
[From Theory to Prac](#)
[Constructivist Theor](#)

## Cognitivism.

During the 1960s, discontent with the inadequacies of behaviourism another school of thought was developing besides the behavioural thinking, the cognitive aspects. The behaviourist perspective could not easily explain why people attempt to organise and make sense of the information they learn. One example includes remembering general meanings rather than word for word information. Among learning psychologists there emerged a growing realisation that mental events or cognition could no longer be ignored

Cognitive psychologists share with behaviourists the belief that the study of learning should be objective and that learning theories should be developed from the results of empirical research. However, cognitivists disagree with the behaviourists in one critical aspect. By observing the responses that individuals make to different stimulus conditions, cognitivists believe that they can draw inferences about the nature of the internal cognitive processes that produce those responses.

Many ideas and assumptions of cognitivism can be traced back to the early decades of the twentieth century. Of all theories, the theories of Jean Piaget of Switzerland are the ones that have provided psychology with very elaborated account of developmental changes in cognitive abilities.

*Jean Piaget (1896-1980).*

Jean Piaget was one of the most influential cognitive psychologist. He was a student of biology and zoology and learnt that survival requires adaptation. Therefore he viewed the development of human cognition, or intelligence, as the continual struggle of a very complex organism trying to adapt to a very complex environment. According to Piaget's theory, human development can be outlined in terms of functions and cognitive structures. The functions are inborn biological processes that are identical for every one and stay unchanged throughout our lives. The purpose of these functions is to construct internal cognitive structures. The structures, in contrast, changes repeatedly as the child grows (Vasa, R., Haith, M.M., Miller, S.A., 1995, p.,33).

Piaget emphasises on two main functions; one is *organisation* (or equilibrium). Organisation refers to the fact that all cognitive structures are interrelated and that any new knowledge must be fitted into the existing system. It is the need to integrate the new information, rather than adding them on, that force our cognitive structure to become more elaborate.

The second general function is *adaptation*. Adaptation refers to the tendency of the organism to fit with its environment in ways that promote survival. It is composed of two terms; *assimilation* and *accommodation*.

Assimilation is the tendency to understand new experience in terms of existing knowledge. Whenever

we come across something new, we try to make sense of it, built upon our existing cognitive structures.

Accommodation occurs when the new information is too complex to be integrated into the existing structure - this means that, cognitive structures change in response to new experiences (Spencer, K., 1991,p.,175).

Piaget did many experiments on children's way of thinking and concluded that human beings go through several distinct stages of cognitive development. Each stage involves the acquisition of new skills and rest upon the successful completion of the preceding one.

The first stage is the *sensorimotor*, (0-2year). Until about four months of age, the infant can not differentiate itself from the environment. Gradually the child learns to distinguish people from objects and that both have an existence independent of their immediate perception. This stage draws its name, sensorimotor, from that the child learns mainly by touching objects, manipulating them and physically exploring the environment. By the end of this stage the child understands that its environment has distinctive and stable properties.

The next stage is called the *pre-operational* (2years-7years). This is the stage when the child acquires a mastery of a language and becomes able to use words to represent objects and images in a symbolic fashion. Piaget terms this stage pre-operational because children are not yet able to use their developing mental capabilities systematically. At this stage children are egocentric, which means that the child has the tendency to interpret the world exclusively with its own position. The child does not understand, for an example, that others see things and objects from a different perspective from their own. During this phase of development the children have no general understanding of categories of thought that adults take for granted, ideas such as causality, speed, weight or number.

The third stage is the *concrete operational period* (7years-11years). During this period children master abstract, logical notions. They are able to handle ideas such as causality without much difficulty, and they are fit to carry out the mathematical operations of multiplying, dividing and subtracting. By this stage children are much less egocentric.

The fourth stage is called the *formal operational* period (11+). During adolescence, the developing child becomes able to comprehend highly abstract and hypothetical concepts. When faced with a problem, children at this stage should be able to review all possible ways of solving it and go through them theoretically in order to reach a solution.

According to Piaget, the first three stages of development are general, but not all adults come to the formal operational stage. The development of formal operational thought relies in part on the process of schooling. Adults of limited educational achievement tend to remain to think in more concrete terms and retain large traces of egocentrism (Giddens, 1994).

The educational interest of Piaget's work lies firstly in this procedure he used to make educationists aware of the child's thought processes and the conditions under which intellectual structures are established at different ages.

There are four principles that are most often cited in Piaget's theory regarding to education. The first is the important of readiness. This principal follows from his emphasis on assimilation. Experience, educational or otherwise, does not simply happen to a child; rather it must always be assimilated to current cognitive structure. A new experience can only be of any value if the child can make sense of it. Teaching that is far away the child's level is unlikely to be useful.

The second principle concerns the motivation for cognitive activity. Educational content that is either too advanced or too simple is unlikely to be interesting. The educational subject has to be slightly beyond the current level of the child so that it provides experience familiar enough to assimilate however challenging enough to provoke disequilibrium.

The third is the awareness of what level the child has reached and the information of what it can be expected at that level and what not. Piaget's studies often identify steps and sequences through which particular content domains are mastered. It is therefor possible not only to determine were the child is but also to know the natural next steps for development.

The final principle is more functional. It concerns Piaget's emphasis on intelligence as an action. In his view education should be build on the child's natural curiosity and natural tendency to act on the world in order to understand it. Knowledge is most meaningful when children construct it themselves rather than having it imposed upon them (Vasa,R., Haith,M.M.,Miller,S.A.,1992).

The experience in acquiring a new knowledge through action allows two different kinds of knowledge to develop, the physical experience and the logico-mathematical experience. Physical experience produces knowledge of the properties of the objects acted upon. Logico-mathematical experience result in knowledge, not of the objects, but of the actions themselves and their results.

From physical experience, one would gain knowledge of the weight of objects; or the fact that, other things being equal, weight increases as volume increases, and so on. When speaking of logico-mathematical experience the point is that even the highest forms of abstract reasoning have their origin in action (Donaldson, 1987).

The aim for education, according to Piaget, is to make individuals who are critical, creative and inventive discoverers. So the major part of the child's learning relies on active experimentation and discovery. The active classroom has been associated with the term progressive teaching, where pupils are in active role, learning predominantly by discovery techniques, with emphasis on creative expression. Subject matter tends to be combined, with the teacher performing as a guide to educational experiences and encouraging cooparitive work. External rewards and punishments are seen as being unimportant, and there is not so much concern with traditional academic standards and testing (Spencer, 1994).

As a biologist Piaget tended to look at development more from the physical change and the readiness for each stage to develop any further. Another perspective in the cognitive movement was from those who saw the connection between the environment and the child development in a constructive way, and Jerome Burner's ideas are those that are well known.



Roundstone the band see their site [here](#)



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