





Piaget's Stages of Cognitive Development

Piaget concluded that there were four different stages in the cognitive development of children. The first was the Sensory Motor Stage, which occurs in children from birth to approximately two years. The Pre-operational Stage is next, and this occurs in children aged around two to seven years old. Children aged around seven to eleven or twelve go through the Concrete Operational stage, and adolescents go through the Formal Operations Stage, from the age of around eleven to sixteen or more.

The following discussion outlines these four stages:

-  **Sensory Motor Stage** (Birth - 2yrs)
-  **Pre-operational Stage** (2yrs-7yrs)
-  **Concrete Operational Stage** (7yrs-11yrs)
-  **Formal Operations Stage** (11yrs-16yrs)

Sensory Motor Stage (Birth - 2yrs)

Piaget's ideas surrounding the Sensory Motor Stage are centred on the basis of a 'schema'. Schemas are mental representations or ideas about what things are and how we deal with them. Piaget deduced that the first schemas of an infant are to do with movement. Piaget believed that much of a baby's behaviour is triggered by certain stimuli, in that they are reflexive. A few weeks after birth, the baby begins to understand some of the information it is receiving from its senses, and learns to use some muscles and limbs for movement. These developments are known as 'action schemas'.



Babies are unable to consider anyone else's needs, wants or interests, and are therefore considered to be 'ego centric'.

During the Sensory Motor Stage, knowledge about objects and the ways that they can be manipulated is acquired. Through the acquisition of information about self and the world, and the people in it, the baby begins to understand how one thing can cause or affect another, and begins to develop simple ideas about time and space.

Babies have the ability to build up mental pictures of objects around them, from the knowledge that they have developed on what can be done with the object. Large amounts of an infant's experience is surrounding objects. What the objects are is irrelevant, more importance is placed on the baby being able to explore the object to see what can be done with it. At around the age of eight or nine months, infants are more interested in an object for the object's own sake.

A discovery by Piaget surrounding this stage of development, was that when an object is taken from their sight, babies act as though the object has ceased to exist. By around eight to twelve months, infants begin to look for objects hidden, this is what is defined as 'Object Permanence'. This view has been challenged however, by Tom Bower, who showed that babies from one to four months have an idea of Object Permanence.

Pre-Operations Stage (2yrs-7yrs)

Piaget's second stage of development, was the Pre-Operations Stage. Children usually go through this stage between the age of two to seven years old.

During this stage, children's thought processes are developing, although they are still considered to be far from 'logical thought', in the adult sense of the word. The vocabulary of a child is also expanded and developed during this stage, as they change from babies and toddlers into 'little people'.



Pre-operational children are usually 'ego centric', meaning that they are only able to consider things from their own point of view, and imagine that everyone shares this view, because it is the only one possible. Gradually during this stage, a certain amount of 'decentering' occurs. This is when someone stops believing that they are the centre of the world, and they are more able to imagine that something or someone else could be the centre of attention.

'Animism' is also a characteristic of the Pre-operational stage. This is when a person has the belief that everything that exists has some kind of consciousness. An example of this is that children often believe that a car won't start because it is tired or sick, or they punish a piece of furniture when they run into it, because it must have been naughty to hurt them. A reason for this characteristic of the stage, is that the Pre-operational child often assumes that everyone and everything is like them. Therefore since the child can feel pain, and has emotions, so must everything else.

Another aspect of the Pre-operational stage in a child, is that of 'symbolism'. This is when something is allowed to stand for or symbolise something else. 'Moral realism' is a fourth aspect of this stage, this is the belief that the child's way of thinking about the difference between right and wrong, is shared by everyone else around them. One aspect of a situation, at one time, is all that they are able to focus on, and it is beyond them to consider that anything else could be possible. Due to this aspect of the stage, children begin to respect and insist on obedience of rules at all times, and they are not able to take anything such as motives into account.

Concrete Operations Stage (7yrs-11yrs)

The Concrete Operations Stage, was Piaget's third stage of cognitive development in children. This stage was believed to have affected children aged between seven and eleven to twelve years old.

During this stage, the thought process becomes more rational, mature and 'adult like', or more 'operational', Although this process most often

continues well into the teenage years. The process is divided by Piaget into two stages, the Concrete Operations, and the Formal Operations stage, which is normally undergone by adolescents.



In the Concrete Operational stage, the child has the ability to develop logical thought about an object, if they are able to manipulate it. By comparison, however, in the Formal Operations stage, the thoughts are able to be manipulated and the presence of the object is not necessary for the thought to take place.

Belief in animism and ego centric thought tends to decline during the Concrete Operational stage, although, remnants of this way of thinking are often found in adults.

Piaget claims that before the beginning of this stage, children's ideas about different objects, are formed and dominated by the appearance of the object. For example, there appears to be more blocks when they are spread out, than when they are in a small pile. During the Concrete Operational Stage, children gradually develop the ability to 'conserve', or learn that objects are not always the way that they appear to be. This occurs when children are able to take in many different aspects of an object, simply through looking at it. Children are able to begin to imagine different scenarios, or 'what if' something were to happen. This is because they now have more 'operational' thought. Children are generally first able to conserve ideas about objects with which they are most comfortable.

Once children have learnt to conserve, they learn about 'reversibility'. This means that they learn that if things are changed, they will still be the same as they used to be. For example, they learn that if they spread out the pile of blocks, there are still as many there as before, even though it looks different!

Formal Operations Stage (11yrs-16yrs)

Finally, in the formal operational stage of adolescence, the structures of development become the abstract, logically organized system of adult intelligence. When faced with a complex problem, the adolescent speculates about all possible solutions before trying them out in the real world.

The formal operational stage begins around age 11 and is fully achieved by age 15, bringing with it the capacity for abstraction. This permits adolescents to reason beyond a world of concrete reality to a world of possibilities and to operate logically on symbols and information that do not necessarily refer to objects and events in the real world.

There are 2 major characteristics of formal operational thought.

The first is 'hypothetic-deductive reasoning'. When faced with a problem, adolescents come up with a general theory of all possible factors that might affect the outcome and deduce from it specific hypotheses that might occur. They then systematically treat these hypotheses to see which ones do in fact occur in the real world. Thus, adolescent problem solving begins with possibility and proceeds to reality.

The second important characteristic of this stage is that it is 'propositional' in nature. Adolescents can focus on verbal assertions and evaluate their logical validity without making reference to real-world circumstances. In contrast, concrete operational children can evaluate the logic of statements by considering them against concrete evidence only.