

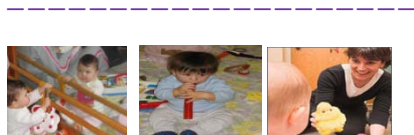
Jean Piaget's Stages of Cognitive Development



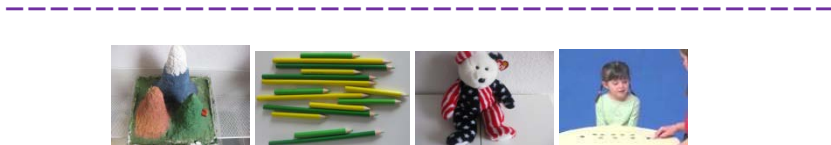
Four Stages of Development

Birth 1 year 2 years 3 years 4 years 5 years 6 years 7 years 8 years 9 years 10 years 11 years 12 years

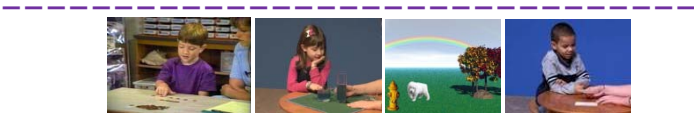
Stage1. Sensori-motor (Birth – 2 years)



Stage2. Pre-operational (2 years – 7 years)



Stage3. Concrete Operational (7 years – 11 years)



Stage4. Formal Operational (11 years - onwards)



Stage 1 - Sensori-motor: Key Features

Birth

1 year

2 years



Development of thought processes using sensory information and actions.

The child learns about himself and his environment through motor and reflex actions. Thought derives from sensation and movement. Play is solitary involving simple, repetitive muscle movements without objects, such as kicking, rasping, and splashing. Piaget called this “practice or mastery play”.



Some symbolic thought seen at about 18 – 24 months.

Symbolic thought is the representation of reality through the use of abstract concepts such as words, gestures, and numbers. According to Piaget, imagination plays an important role in the development of symbolic thought because the child is able to imagine behaviors observed in the past and to recreate them as imitated behaviors.



Object permanence develops.

Object permanence: the understanding that a person or object still exists when out of sight. This is a major intellectual jump for the child for it means that when an object is removed from his view it no longer entirely disappears from his world. He is able to retrieve the object in his mind, move the cushion or blanket away and repossess the object.

Stage 2 - Pre-operational: Key Features

2 years	3 years	4 years	5 years	6 years	7 years
					
Thinking is egocentric	Problems with classification	Tendency towards animism	Inability to conserve experiments		
Egocentrism: inability to consider another person's point of view. In the three mountain experiment, a child faced a display of three model mountains while the researcher placed a doll at different viewpoints of the display. The researcher asked the child to select from a set of pictures showing the doll's view. Some of the children did not distinguish between their own view and that of the doll and hence, Piaget concluded that this was evidence of egocentric thought.	The child is able to only take one feature into account when classifying. So in the above experiment, when asked to choose all the small green pencils, the child picked up all the green pencils. The child is not yet able to conceptualize abstractly and needs concrete physical situations.	Animism: tendency to attribute life to objects that are not alive. Play reflects increasing experiences and imagination. It involves the use of mental representation to pretend that one object stands for another, or to take on a make-believe role. Piaget called this "symbolic" play.	Conservation: the ability to see that something remains the same even though it has been repositioned. The child's thinking depends more on perception than logic and is therefore susceptible to outward appearances. One of the classic conservation experiments involves <i>liquid quantity</i>. A child is first shown two short, fat beakers. The child is asked to say when the two beakers have the same amount of water in them. Next the adult takes a tall, thin beaker and pours colored water from one of the short, fat beakers into one of the tall, thin beakers. The experimenter asks, "Which contains more, or do they contain the same amount?" Most children under the age of 6 will point to the tall beaker and say, "This one has more in it." The child is swayed by the perceptual cue of height.		

Stage 3: Concrete Operational: Key Features

7 years

8 years

9 years

10 years

11 years



Attains most conservation operations:
number and volume.

Number: the child is shown two rows of coins and agrees that both rows contain the same number of coins. The experimenter then spreads out one row and asks if both the rows are the same. The child in the concrete operational stage is able to conserve and hence, most likely will say "yes".
Volume: they will now be able to conserve liquid quantity and say "The amount of liquid in the glasses is the same because it comes from the same glass."

Unable to deal with
most abstract thoughts.

Children now have a better understanding of time and space but still may not be able to think about the dog abstractly: for example, when it is safe to approach an animal and how to treat the dog.

Logical and deductive
begins to develop.

Egocentrism declines and children develop the ability to think in a more logical manner.
Play becomes cooperative. The child learns rules, how to share and to give and take. He becomes sociable and cooperative.
Piaget called this type of play "play with rules".

Stage 4: Formal Operational

Key Features

11 years



Can now use adult reasoning.

In earlier stages, children used trial-and-error to solve problems. During the formal operational stage, the ability to systematically solve a problem in a logical and methodical way emerges. Children at the formal operational stage of cognitive development are often able to quickly plan an organized approach to solving a problem.

12 years



Thinks about moral issues and justice.

Instead of relying solely on previous experiences, children begin to consider possible outcomes and consequences of actions.



Capable of abstract thought:
e.g. deductive reasoning,
hypothesis testing.

Piaget believed that deductive logic becomes important during the formal operational stage. Deductive logic requires the ability to use a general principle to determine a specific outcome. This type of thinking involves hypothetical situations and is often required in science and mathematics.

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