

Piaget's theory of cognitive development

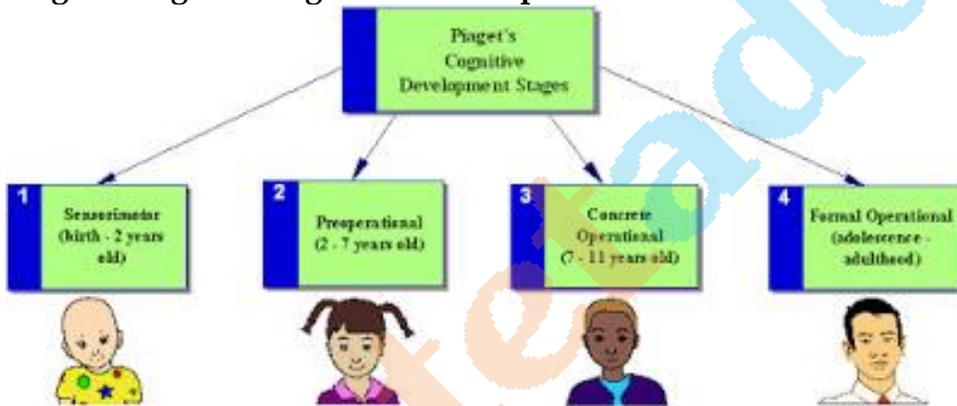
Jean Piaget was a developmental psychologist who was born in **Switzerland in 1896**. Piaget, is famous for his theories of child development, particularly his **theory of cognitive development**. He proposed a **stage theory of development**.

According to psychologist Jean Piaget, children progress through a series of four critical stages of cognitive development. Each stage is marked by shifts in how kids understand the world. Piaget believed that **children are like "little scientists" and that they actively try to explore and make sense of the world around them**.

There Are Three Basic Components To Piaget's Cognitive Theory:

- **Schemas:**
(building blocks of knowledge).
- Adaptation processes that enable the transition from one stage to another (**equilibrium, assimilation, and accommodation**).

Piaget's Stages of Cognitive Development:



(a) Sensorimotor stage (Birth to 2 years old):

The sensorimotor stage can be divided into six separate sub-stages that are characterized by the development of a new skill.

Sensory Motor Substages (4-6)

Coordination of secondary schemata (4th substage):
"Intent. Object Independence. Symbolic Thought."

New Means through new combinations (6th substage):
"Thought before action."

Tertiary circular reactions (5th substage):
"Rapid expansion of Schema."



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1. Reflexes (0-1 month):

During this sub stage, the child understands the environment purely **through inborn reflexes such as sucking and looking**.

2. Primary Circular Reactions (1-4 months):

This sub stage involves coordinating sensation and new schema. (A schema of a concept is a diagrammatic representation of a person understands of the concept and its properties and relationships with other concepts).

For example, a child may suck his or her thumb by accident and then later intentionally repeat the action. These actions are repeated because the infant finds them pleasurable.

3. Secondary Circular Reactions (4-8 months):

During this sub stage, the child becomes more focused on the world and begins to intentionally repeat an action in order to trigger a response in the environment.

For example, a child will purposefully pick up a toy in order to put it in his or her mouth.

4. Coordination of Reactions (8-12 months):

During this sub stage, the child starts to show clearly intentional actions.

The child may also combine schemas in order to achieve a desired effect. Children begin exploring the environment around them and will often imitate the observed behavior of others.

The understanding of objects also begins during this time and children begin to recognize certain objects as having specific qualities.

For example, a child might realize that a rattle will make a sound when shaken.

5. Tertiary Circular Reactions (12-18 months):

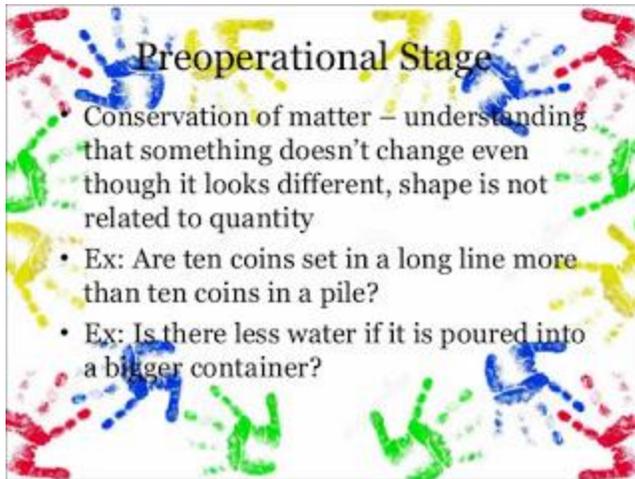
Children begin a period of trial-and-error experimentation during the fifth sub stage.

For example, a child may try out different sounds or actions as a way of getting attention from a caregiver.

6. Early Representational Thought (18-24 months):

Children begin to develop symbols to represent events or objects in the world in the final sensorimotor sub stage. During this time, children begin to move towards understanding the world through mental operations rather than purely through actions.

(b) Pre-operational stage (ages 2 to 7):



The child is **not yet able to conceptualize abstractly and needs concrete physical situations**. Objects are classified in simple ways, especially by important features.

Piaget noted that children in this stage do not yet understand concrete logic, cannot mentally manipulate information, and are unable to take the point of view of other people, which he termed **egocentrism**.

Role playing also becomes important during the preoperational stage. Children often play the roles of "mommy", "daddy", "doctor", and many other characters.

(c) Concrete operations (ages 7 to 11):

Concrete Operational Stage



- Children gain a fuller understanding of conservation and other mental operations that allow them to think logically, but only about concrete events
 - Conservation for liquids, numbers, and matter acquired early, but conservation of length acquired later in the stage
 - Develops transitivity (e.g., if $A > B$, and $B > C$, then $A > C$)
 - Develops seriation, the ability to order stimuli along a quantitative dimension (e.g., a set of pencils by their length)
- The reasoning of concrete operational children is tied to immediate reality (i.e., what is in front of them and tangible) and not with the hypothetical world of possibility

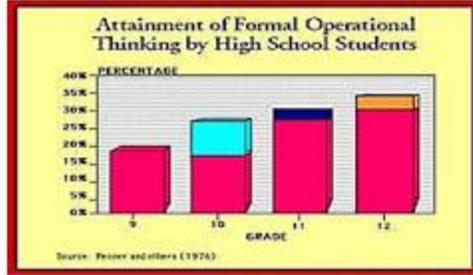
- At this stage, the child **begins to think abstractly and conceptualize, creating logical structures that explain his or her physical experiences**.
- Piaget determined that children in the concrete operational stage were **fairly good at the use of inductive logic (inductive reasoning)** but have difficulty using deductive logic, which involves using a general principle to determine the outcome of a specific event.
- One of the **most important developments in this stage is an understanding of reversibility, or awareness that actions can be reversed**. *For example*, a child might be able to recognize that his or her dog is a Labrador, that a Labrador is a dog, and that a dog is an animal.

(d) Formal operations (beginning at ages 11 to 15):

Formal Operational Stage

Around age 12, our reasoning ability expands from concrete thinking to abstract thinking. We can now use symbols and imagined realities to systematically reason.

Piaget called this **formal operational** thinking.



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At this point in development, thinking becomes much more sophisticated and advanced. Kids can think about abstract and theoretical concepts and use logic to come up with creative solutions to problems.

Skills such as **logical thought, deductive reasoning, and systematic planning** also emerge during this stage.