

# Theory of cognitive development

By Jean Piaget

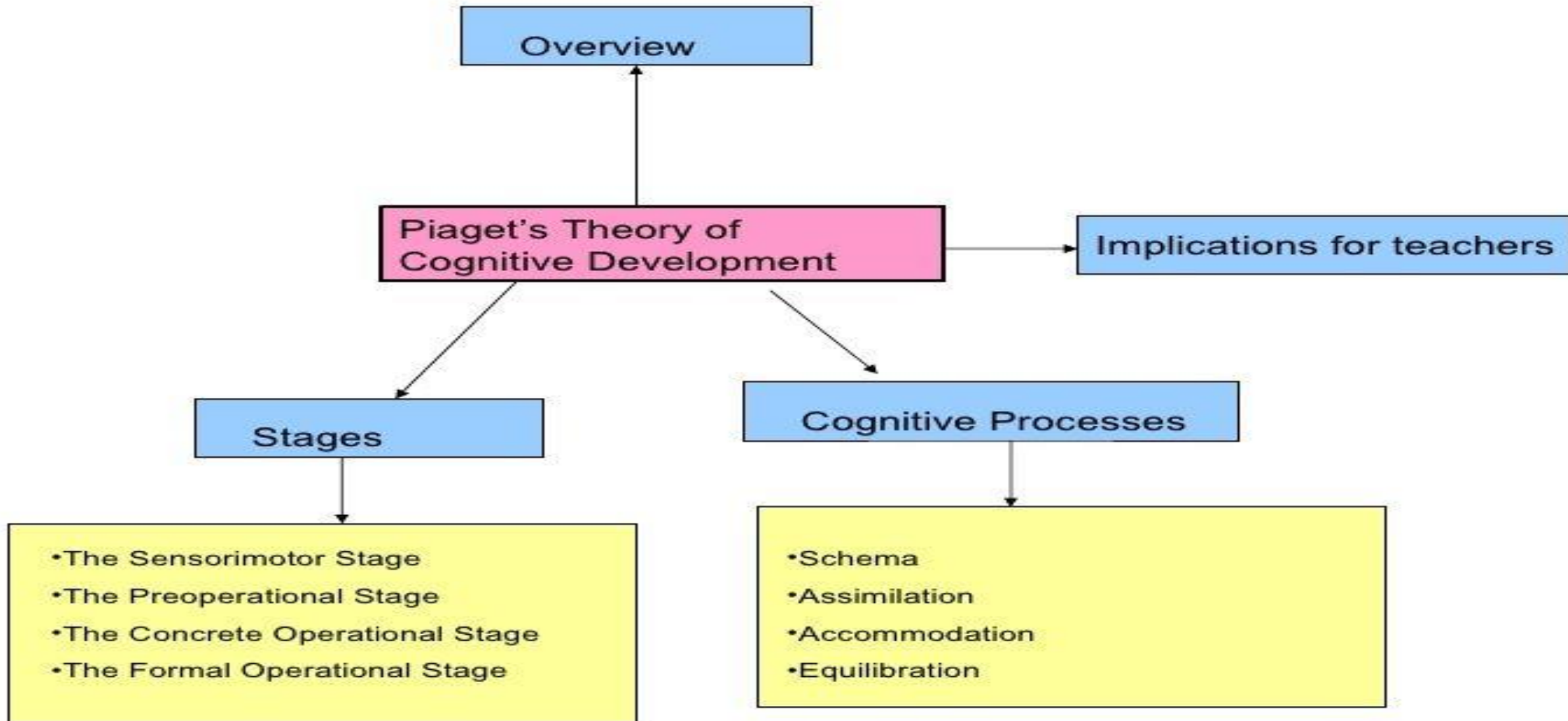
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Overview

Piaget's Theory of  
Cognitive Development

Implications for teachers

Stages

- The Sensorimotor Stage
- The Preoperational Stage
- The Concrete Operational Stage
- The Formal Operational Stage

Cognitive Processes

- Schema
- Assimilation
- Accommodation
- Equilibration



# What is Cognitive Development?

- The growth and development of the mental abilities and capacities which helps an individual to adjust his behaviour to the ever-changing environmental conditions is referred to as mental or cognitive development.



# Who was Jean Piaget

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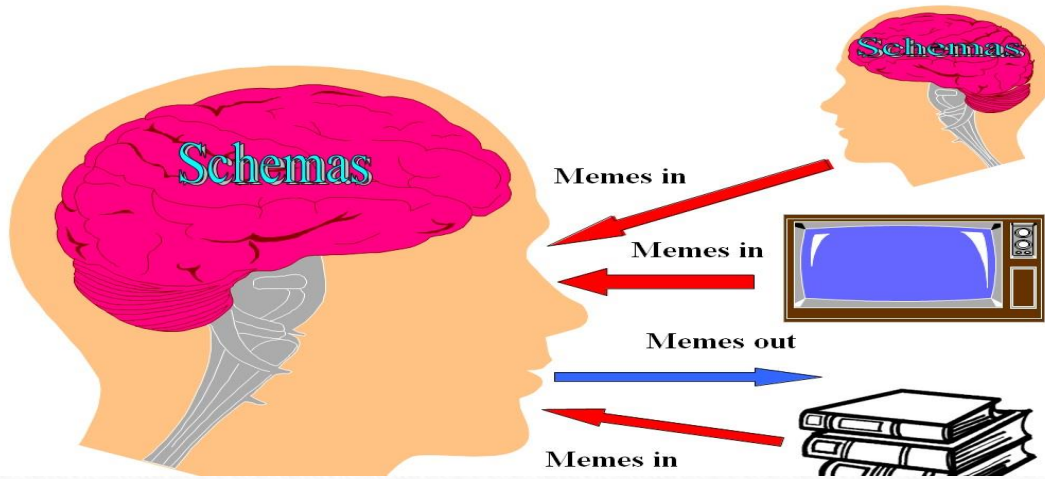
- Jean Piaget was a Swiss biologist, philosopher and a psychologist.
- Being a biologist, he knew the importance of environment and process of adaptation.
- Being a philosopher, he had a keen interest in Epistemology.
- He is also known as the father of child psychology.





# Key terms used by him

- **Schema**: a representation of a plan or theory in the form of outline or model, according to him, they are basic building block of intelligent behaviour e.g.; if a child sees a cat for the first time, he creates his own schema of what a cat is, it has four legs and a tail. The child puts this description into his mind
- **Assimilation**: this refers to process of fitting a new experience into an existing or previously created schema e.g.; if a child sees another cat, this time a cat is small, may be a kitten, he would add this new information into his schema of cat,
- **Accommodation**: this refers to the process of creating a new schema e.g.; if the same child sees another animal that looks little bit like a cat but somehow different, he might try to fit it into his schema of cat. With the parents help the child will create a new schema, that its another kind of animal with four legs.
- **Equilibration**: this refers to achieving proper balance between assimilation and accommodation. Equilibration helps explain how children are able move from one stage of thought into next
- **Adaptation**: assimilation and accommodation are the two sides of adaptation



**Assimilation**

**schema**



**Accommodation**



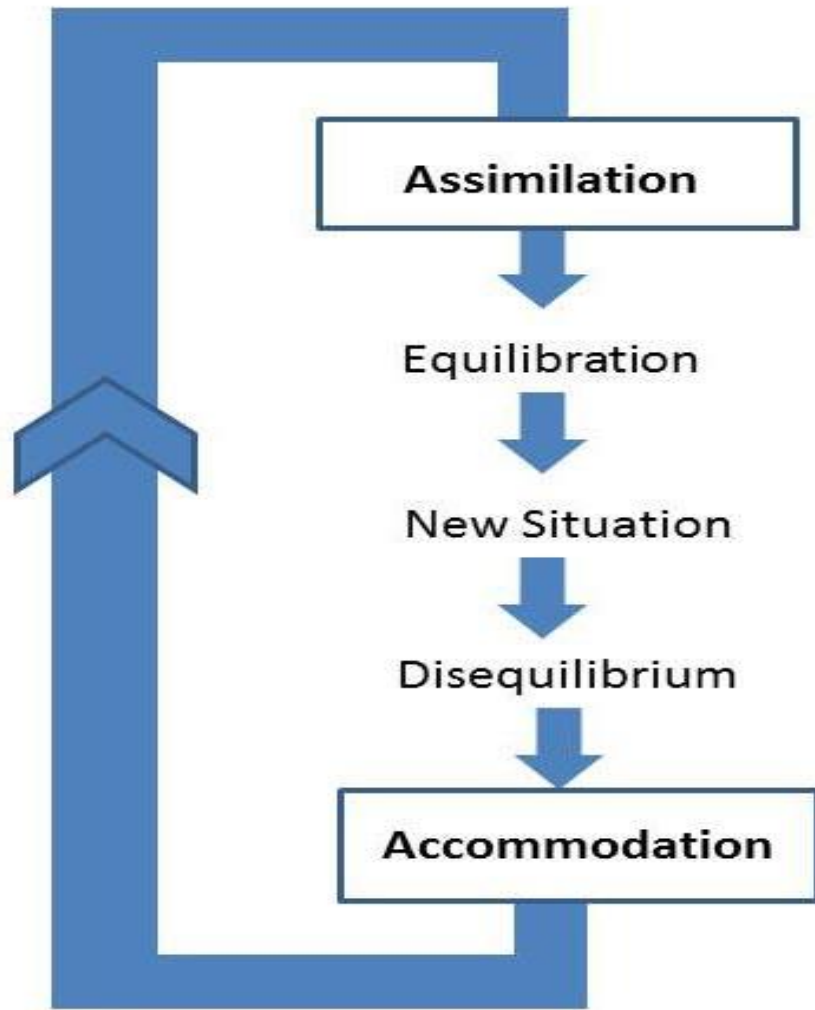
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**equilibration**



**Adaptation**





Boy saw an airplane and from existing schema he called it "BIRD", this is called **ASSIMILATION**



Mother told him it's an airplane and people travel in it and it's a Non-living thing.



With the help of new schema, now boy came to know the difference of bird and airplane and now he can correctly recognize it. This called **ACCOMMODATION**

- Piaget's theory of cognitive development suggests that children move through four different stages of mental development.
- His theory focuses not only on understanding how children acquire knowledge, but also understanding the nature of intelligence.
- Through a series of stages, Piaget proposed four stages of cognitive development:
  - 1) **sensori motor stage**
  - 2) **pre-operational stage**
  - 3) **concrete operational stage**
  - 4) **formal operational stage**





# Stages of Cognitive Development

**Sensori motor stage:** The child begins to interact with the environment age 0-2 years

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- Senses are teachers.
- Reflex actions
- Imitative behaviour
- Object Permanence

**Preoperational stage:** The child begins to represent the world symbolically. Age 2-7 years

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- Operation-mental process
- Transductive Reasoning
- Crucial Stage for language development
- Irreversibility of thought.
- According to Piaget child learns to think first and develops language later.
- Child shows two forms of play decentration decontextualization comes later.



**Concrete operational stage:** The child learn the rules such as conservation, age 7-12 years

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- Stage of logical thinking and concrete operations
- Reversibility develops
- Transvity develops
- Seriation
- Child understands that quantity area, volume, does not change with the change in form of shape.
- This stage is also known as later childhood or pre-gang age

**Formal operational stage:** The adolescent can transcend the concrete situation and think about the future, age 12- adulthood

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- Child develops abstract thinking.
- Gang age
- Deductive reasoning
- Adolescent Egocentrism
- Hypothetico- deductive reasoning
- Age of divergent/convergent thinking
- Creative thinking



# Stages of cognitive development



## Sensorimotor Stage

The infant constructs an understanding of the world by coordinating sensory experiences with physical actions. An infant progresses from reflexive, instinctual action at birth to the beginning of symbolic thought toward the end of the stage.

Birth to 2 Years of Age



## Preoperational Stage

The child begins to represent the world with words and images. These words and images reflect increased symbolic thinking and go beyond the connection of sensory information and physical action.

2 to 7 Years of Age



## Concrete Operational Stage

The child can now reason logically about concrete events and classify objects into different sets.

7 to 11 Years of Age



## Formal Operational Stage

The adolescent reasons in more abstract, idealistic, and logical ways.

11 Years of Age Through Adulthood

**FIGURE 9.6** **Piaget's Four Stages of Cognitive Development** Jean Piaget described how human beings, through development, become ever more sophisticated thinkers about the world.



# Pictures



**sensori motor**



**Preoperational**



**Concrete  
operational**



**Formal  
operational**



# Implications for Teachers

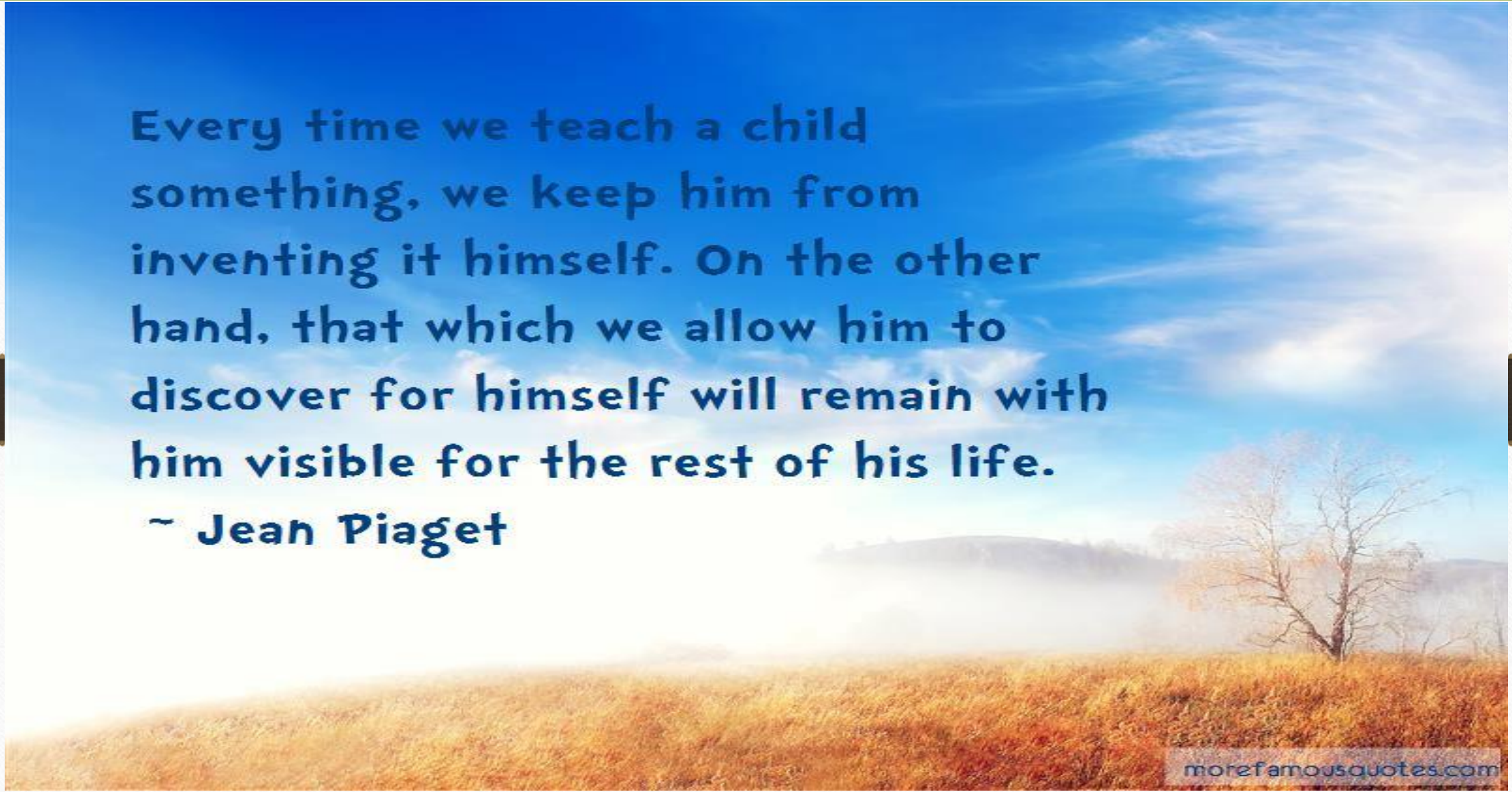
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- Understanding one's intelligence as the function of one's ability to adapt or adjust to one's environment.
- Providing a suitable framework of learning experiences in view of the cognitive development of children and the needs of society.
- Acquainting us with the thought processes of children at a particular level of their maturation or chronological age.
- Emphasizing the organization of optimal conditions of an individual's learning and development in the light of the processes of assimilation, accommodation and equilibration.

- Stressing the importance of the variety of aid material other than verbal communication and concrete objects involving useful symbolic expressions.
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- Emphasizing the need for tailoring the education of a child according to the level of functioning of his cognitive structure.





**Every time we teach a child something, we keep him from inventing it himself. On the other hand, that which we allow him to discover for himself will remain with him visible for the rest of his life.**

**~ Jean Piaget**

Thank you...