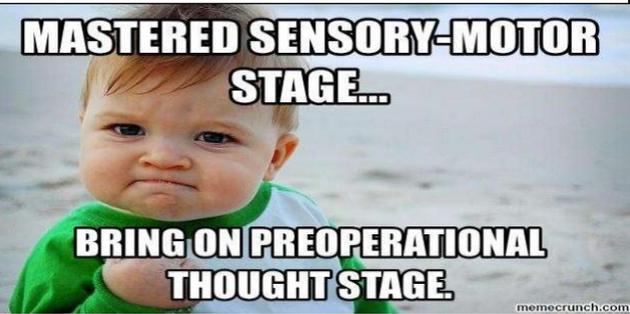


Piaget's Stages of Cognitive Development.

AP Psychology, Yo! Mr. Van Over, with lotsa help from Mr. David Duez.

Human Development:
Cognitive, Personal, &
Moral Development

MASTERED SENSORY-MOTOR
 STAGE...

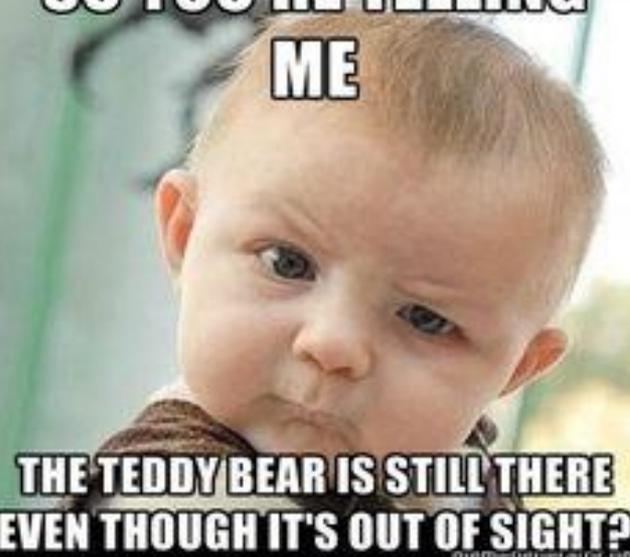


BRING ON PREOPERATIONAL
 THOUGHT STAGE.

Stage

- period in a child's development in which he or she is capable of understanding some things but not others

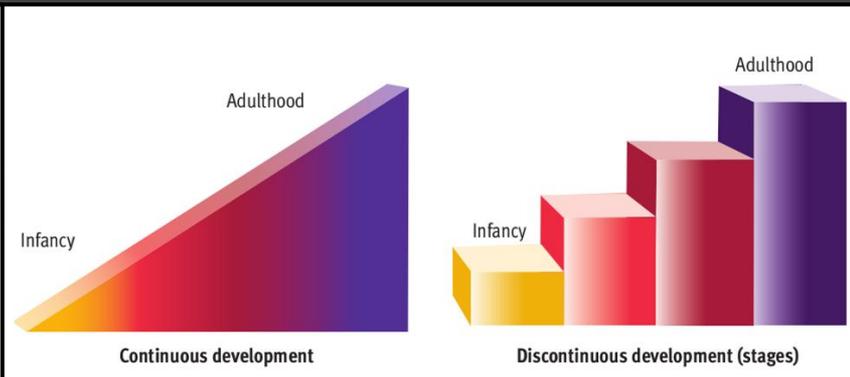
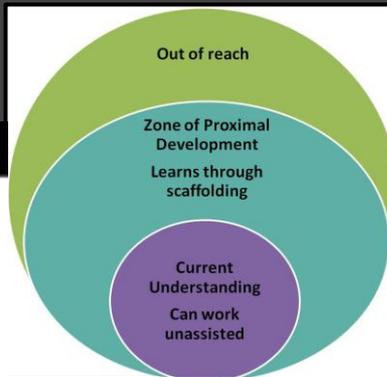
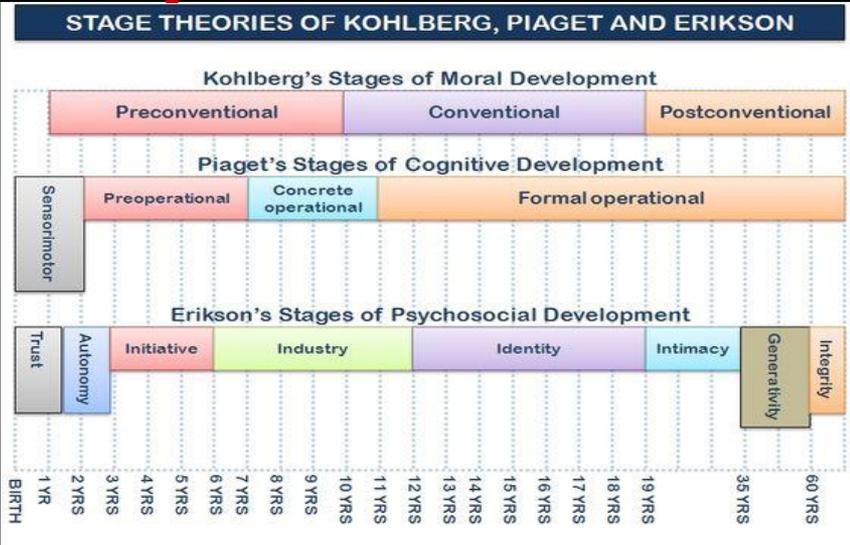
SO YOU'RE TELLING
 ME



THE TEDDY BEAR IS STILL THERE
 EVEN THOUGH IT'S OUT OF SIGHT?

Heinz Dilemma

Heinz Dilemma



COGNITIVE DEVELOPMENT.

Jean Piaget - A pioneer in the field.

Noticed that his children were able to handle logical problems differently at different ages.

As children age, their ability to handle logical problems changes.

Piaget then spent years studying how cognitive development occurred on average.

From this intensive study, Piaget developed a theory of cognitive development that *described how people are able to deal with logical problems differently at different points in their lives.*

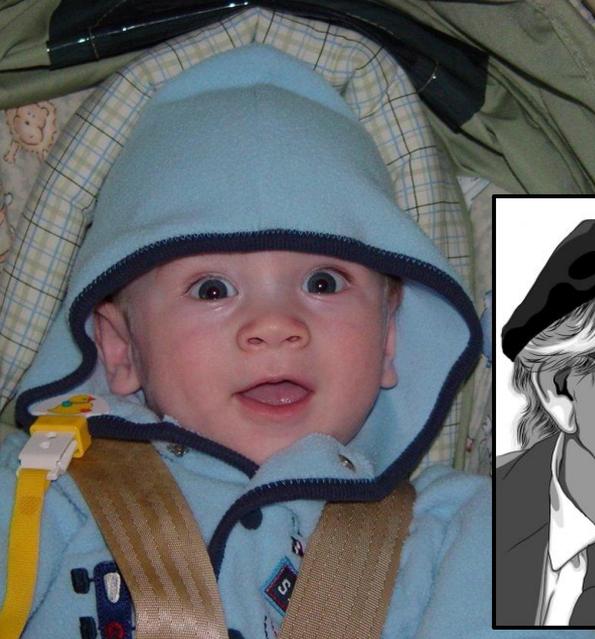
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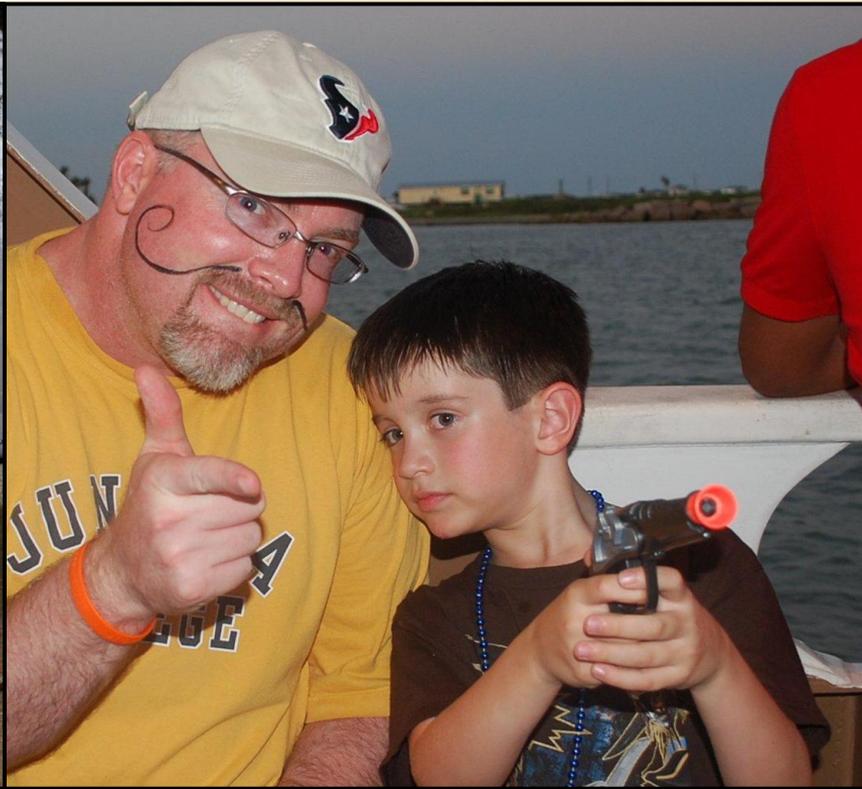
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Piaget: STAGES of Cognitive Development



<p>Stage 1 Sensorimotor period</p> <p>Birth to two years</p>	<p>Stage 2 Preoperational period</p> <p>Two to seven years</p>	<p>Stage 3 Concrete operational period</p> <p>Seven to eleven years</p>	<p>Stage 4 Formal operational period</p> <p>Eleven through adulthood</p>
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Piaget: *Most important issue that children are concerned with is adapting to their environment (adaptation).* To adapt, children use different strategies at different ages.

Accommodation: Process relies on the notion that we develop a series of **schemas** to ease adaptation process.

Schema: An organized body of knowledge. They are not part of the inborn knowledge structures of children.

Sensorimotor period

Development of object
permanence



Piaget: Once we develop **schema**, we spend a lot of time *fitting new experiences into existing schema* or --- **assimilation**.

We need both **accommodate** & **assimilate** throughout life.

Schemas need to be *developed through experience*.

Process of developing new **schema** is called **accommodation**.

Assimilation

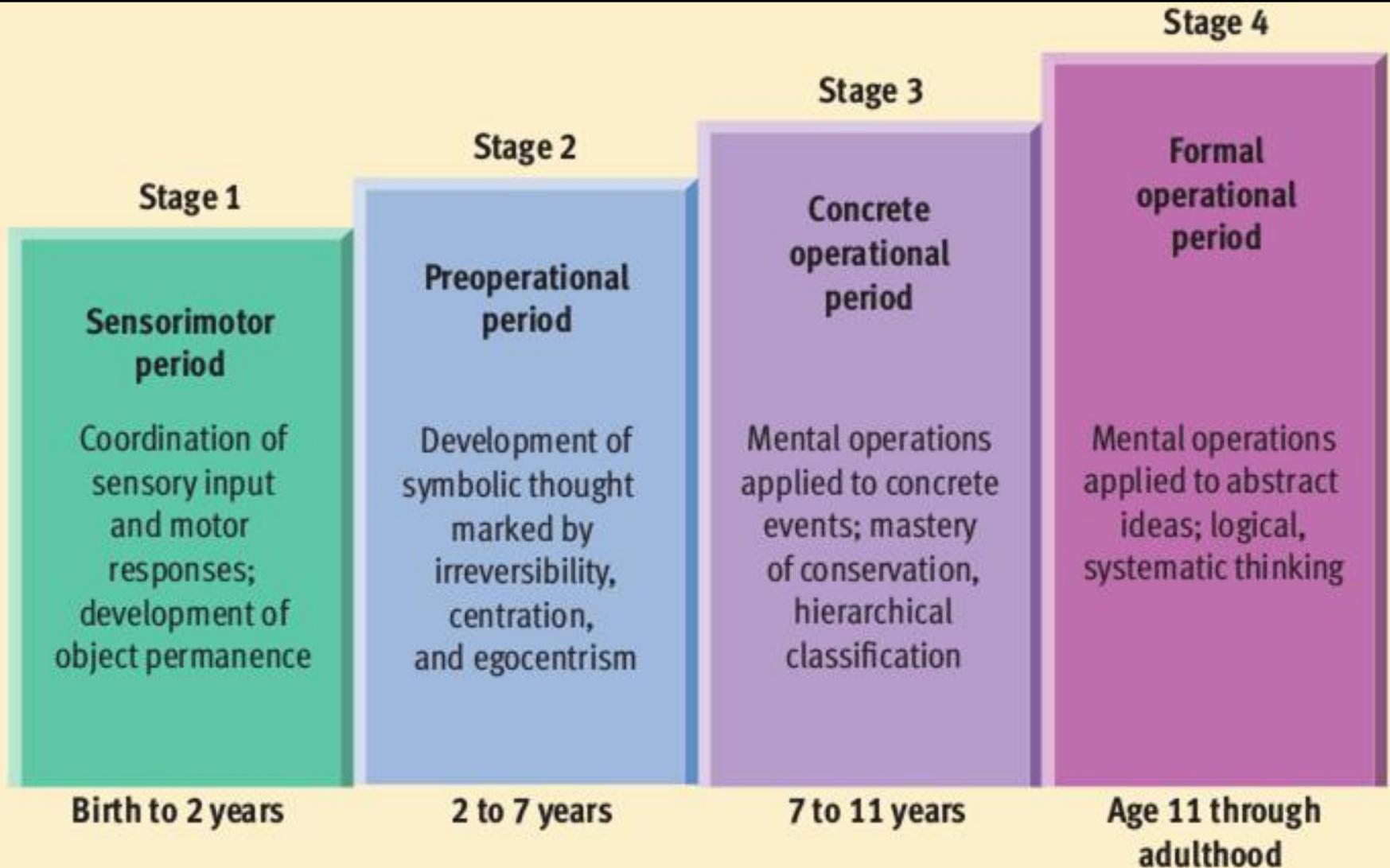
Apple.

Accommodation

Changing mental structures in response to new experiences



Piaget's theory of cognitive development identifies 4 stages marked by fundamentally different modes of thinking through which youngsters evolve.



1st Stage: Sensorimotor 0-2 years

Infants are developing the ability to coordinate their sensory input with their motor actions.

Major development during:
Gradual appearance of symbolic thought.

Beginning of stage: Child's behavior is dominated by innate reflexes.

End of the stage: Child can use mental symbols to represent objects
(Ex, a mental image of a favorite toy)

Key to this transition is the acquisition of the concept of object permanence.



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

Piaget believed that babies up to 18 months lacked the development to determine if an object is still there or not:

Object Permanence

OBJECT PERMANENCE



STUFF CONTINUES TO EXIST

memegenerator.net

Sensorimotor period

Development of object permanence

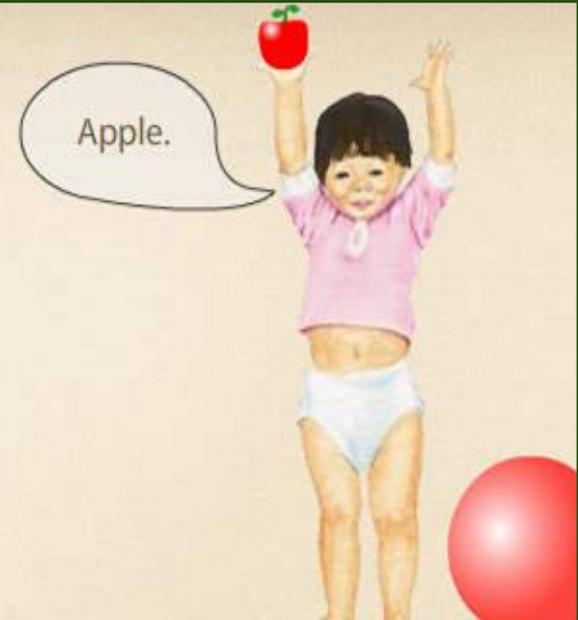


Assimilation

Apple.

Accommodation

Changing mental structures in response to new experiences



WELL DUH SILLY



Object permanence develops when a child recognizes that objects continue to exist even when they are no longer visible.

Show a 3-month-old an eye-catching toy & then cover the toy with a pillow, the child will not attempt to search for the toy.

Piaget inferred: Child does not understand that the toy continues to exist.

1st signs of Insight usually appear between 4-8 months of age. Progress is gradual. Piaget believed that children typically don't master the concept of object permanence until they're about 18 months old.



[YouTube: Object Permanence Experiment with 10 month old](#)



Stage 2 - Preoperational Stage Age: 2-7

During this stage, children gradually improve in their use of mental images. Although progress in symbolic thought continues, Piaget emphasized the shortcomings in preoperational thought.

Have not yet mastered the principle: Conservation: Piaget's term for the awareness that physical quantities remain constant in spite of changes in their shape or appearance.

Inability to understand conservation is caused by some basic flaws in preoperational thinking. These flaws include centration, irreversibility, & egocentrism.



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

Step 1

The child agrees that beakers A and B contain the same amount of water.

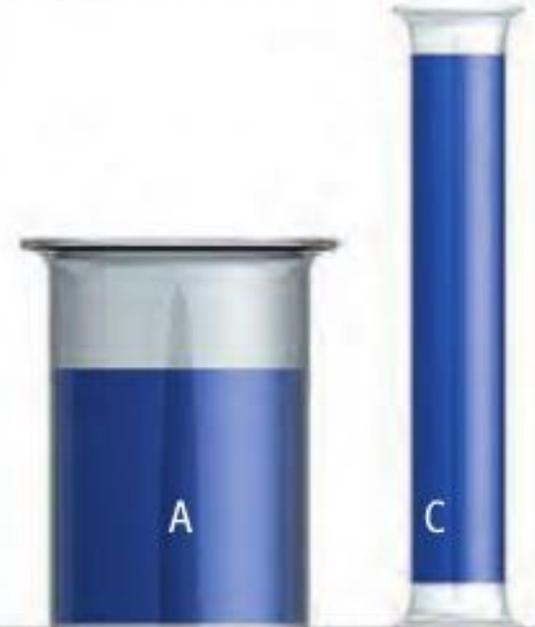


Step 2

The child observes as the water from beaker B is poured into beaker C, which is shaped differently.

Step 3

The child is asked: "Do beakers A and C contain the same amount of water?"



After watching the transformation shown, a preoperational child will usually answer that the taller beaker contains more water. In contrast, a child in the concrete operational period tends to respond correctly, recognizing that the amount of water in beaker C remains the same as the amount in beaker A.

YouTube: Conservation





Conservation of number

Two equivalent rows of objects are shown to the child, who agrees that they have the same number of objects.

Typical age
of mastery

6-7



One row is lengthened, and the child is asked whether one row has more objects.



Conservation of mass

The child acknowledges that two clay balls have equal amounts of clay.

7-8



The experimenter changes the shape of one of the balls and asks the child whether they still contain equal amounts of clay.



Conservation of length

The child agrees that two sticks aligned with each other are the same length.

7-8



After moving one stick to the left or right, the experimenter asks the child whether the sticks are of equal length.



Conservation of area

Two identical sheets of cardboard have wooden blocks placed on them in identical positions; the child confirms that the same amount of space is left on each piece of cardboard.

8-9



The experimenter scatters the blocks on one piece of cardboard and again asks the child whether the two pieces have the same amount of unoccupied space.

Typical age
of mastery

Centration: Tendency to focus on just one feature of a problem, neglecting other important aspects.

Irreversibility: Inability to envision reversing an action.

Egocentrism: Thinking characterized by a limited ability to share another person's viewpoint.

A notable feature of egocentrism is

Animism: The belief that all things are living, just like oneself.



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.

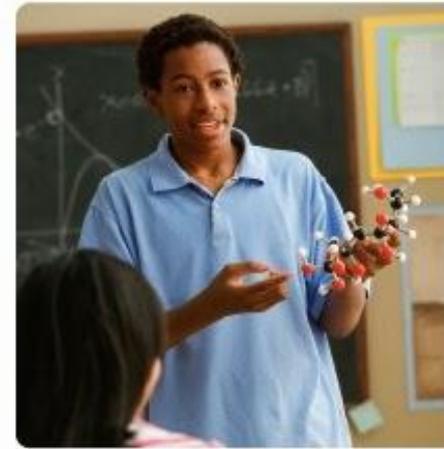
2 to 7 Years of Age



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

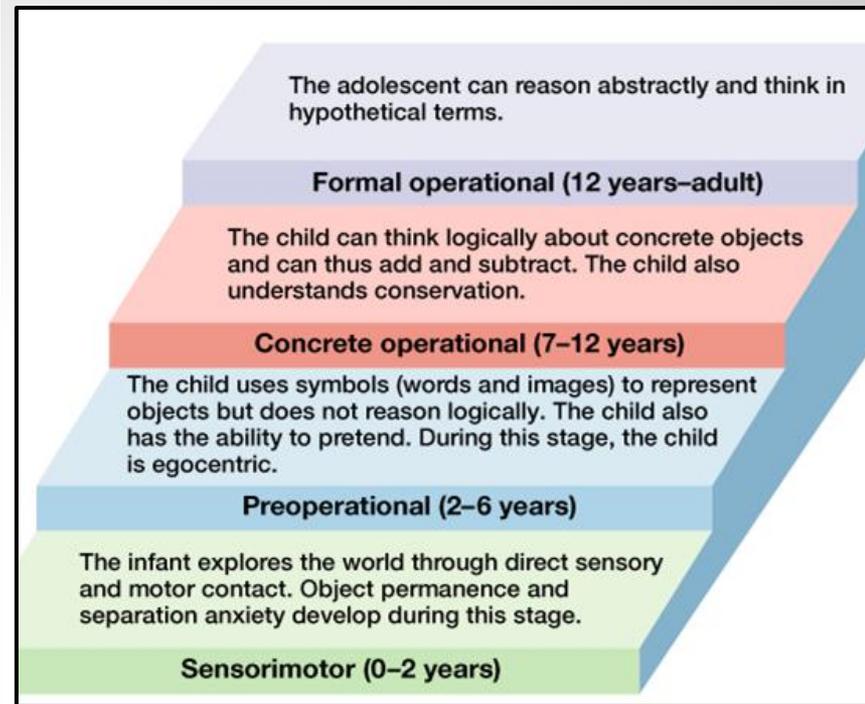
STAGE THEORY

Piaget: all human beings pass through all stages in same order, & we all go through ALL stages during our lifespan.

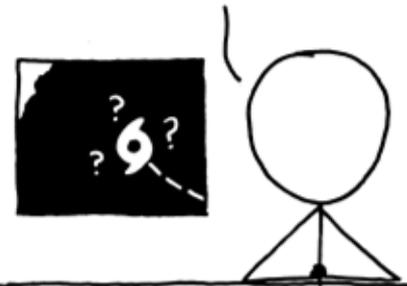
Object Permanence: Concept acquired in stage 2.

Lack of object permanence is why babies love the game peekaboo. But it is no longer interesting for toddlers.

Conservation: Principle that things stay the same no matter if the form changes. (*physics*)
Lack of conservation also can be seen in length, mass, number & volume.



FEAR TURNED TO CONFUSION TODAY AS HURRICANE RINA DEVELOPED TO PIAGET STAGE 5, WITH SUSTAINED INTERESTS IN OBJECTS AND THEIR PROPERTIES.



How to Memorize Piaget's Stages

1. Sensorimotor - 0-2 yrs, Object Permanence

"1 - Bun"



How to Memorize Piaget's Stages

1. Sensorimotor (0-2 yrs: Object Permanence)
2. Preoperational (2-7 yrs: Magical Thinking, Conservation of Energy is difficult, Egocentric, Assimilation)
3. Concrete Operations (7-12 yrs: Logical Thinking, Accommodation)
4. Formal Operations (Adult: Abstract Thinking)

SPCF

-or-

“SPeCiFy”

Critics of Piaget:

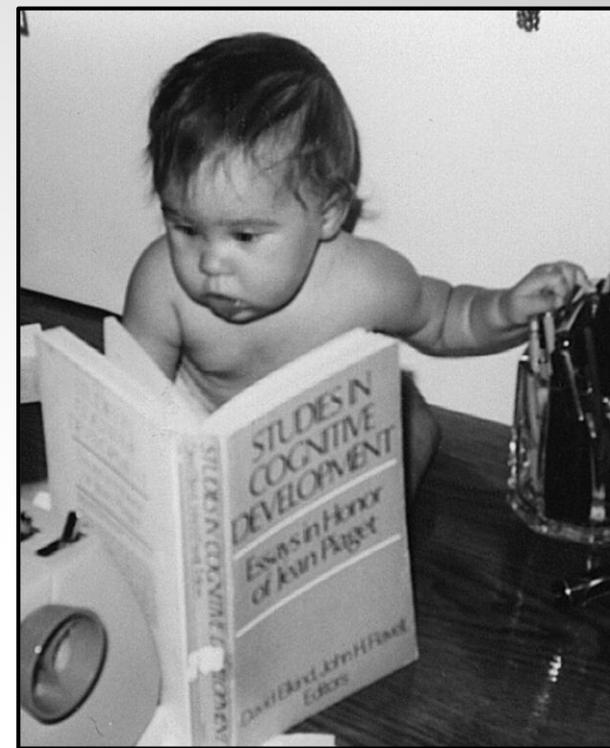
Underestimated children's skills
on one end ... and...

Overestimated their skills on the
other end

Several researchers rephrased Piagetian tasks &
found that younger children were able to
understand the questions & respond
appropriately

Children seem to acquire cognitive abilities earlier
than Piaget predicted

In addition, the children seemed to have internal
representation prior to Preoperational ages.



Critics of Piaget:

On the other end, another researcher gave a variety of Piagetian tasks to college freshmen & found that only 40% of them displayed characteristics of formal operations.

100% should have been in formal operations, according to Piaget.

Children may enter formal operations later in life.



LEV VYGOTSKY: Contemporary Rival of Piaget

Alternative approach to cognitive development

Disagreed w/Piaget that children moved through stages of cognitive development in an orderly fashion.

Vygotsky: Children learn according to their own schedule.

Have a range of abilities under which they are able to operate. **Following an adult's example**, they eventually develop the ability to do certain tasks alone. **This included a cultural & language base that helped to determine individual development.**

