TH: KIN THE NAME OF GOD Piaget's Theory of Cognitive Development Arash Mani, PhD.

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Piaget's Theory



Jean Piaget (1896-1980) was one of the 20th centuries most influential researchers in the area of developmental psychology.

He was a child prodigy who published his first article in a refereed journal at the age of 11.

Describe <u>intellectual development according to</u> <u>Piaget</u>:

including a discussion of both the process and the stages of development.

Note behavioral characteristics of each stage, describing how assimilation and accommodation are exemplified for each stage of development.

Piaget's Theory

Piaget originally trained in the areas of biology and philosophy and considered himself a "genetic epistimologist."

He was mainly interested in the biological influences on "how we come to know."

Piaget's Theory of Cognitive Development

Describe specific actions that teachers can take to incorporate Piaget's theory into the classroom.

Piaget's Theory

Piaget believed that what distinguishes human beings from other animals is our ability to do "abstract symbolic reasoning."

Piaget's Theory

Piaget's views are often compared with those of Lev Vygotsky (1896-1934), who looked more to social interaction as the primary source of cognition and behavior.

This is somewhat similar to the distinctions made between Freud and Erikson in terms of the development of personality.

Piaget's Theory There are two major aspects to his theory: • the process of coming to know and • the stages we move through as we gradually acquire this ability. Piaget's training as a biologist influenced both aspects of his theory.

Piaget's Theory

While working in Binet's test lab in Paris, Piaget became interested in how children think.

He noticed that young children's answers were qualitatively different than older children.

This suggested to him that the younger children were not less knowledgeable but, instead, answered the questions differently than their older peers because they thought differently. **Process of Cognitive Development**

As a biologist, Piaget was interested in how an organism adapts to its environment (Piaget described this ability as intelligence.)

Behavior is controlled through mental organizations called schemes that the individual uses to represent the world and designate action.

Piaget's Theory

This implies that human development is qualitative (changes in kind) rather than quantitative (changes in amount).

Process of Cognitive Development

This adaptation is driven by a biological drive to obtain balance between schemes and the environment (equilibration).

Process of Cognitive Development

Piaget hypothesized that infants are born with schemes operating at birth that he called "reflexes."

In other animals, these reflexes control behavior throughout life.

However, in human beings as the infant uses these reflexes to adapt to the environment, these reflexes are quickly replaced with constructed schemes.

Process of Cognitive Development

Accommodation The process of changing cognitive structures in order to accept something from the environment.

Example: the infant modifies a sucking schema developed by sucking on a pacifier to one that would be successful for sucking on a bottle.

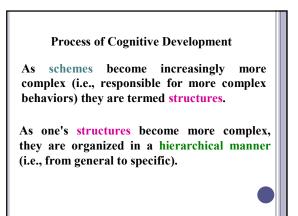
Process of Cognitive Development

Piaget described two processes used by the individual in its attempt to adapt:

assimilation and

accommodation.

Both of these processes are used thoughout life as the person increasingly adapts to the environment in a more complex manner.

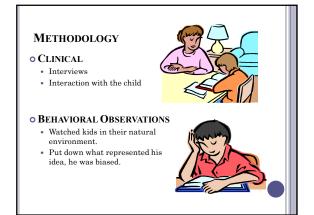


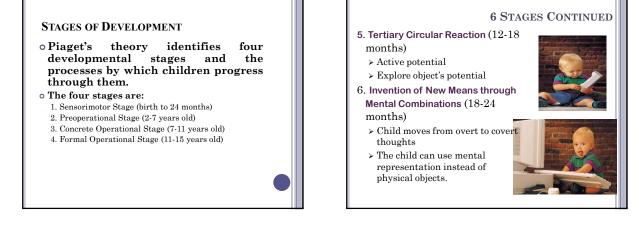
Process of Cognitive Development

Assimilation

The process of using or transforming the environment so that it can be placed in preexisting cognitive structures.

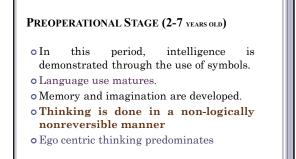
Example: an infant uses a sucking schema that was developed by sucking on a small bottle when attempting to suck on a larger bottle.



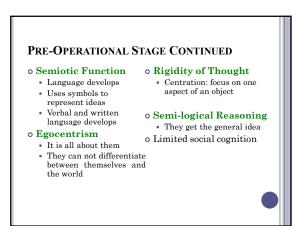


SENSORIMOTOR STAGE

- In this period, intelligence is demonstrated through motor activity without the use of symbols.
- Knowledge of the world is limited (but developing) because it is based on physical interactions and experiences.
- Some symbolic abilities are developed at the end of this stage.

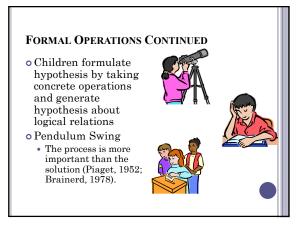


6 STAGES OF SENSORIMOTOR STAGE **Modification of** 1. 3. Secondary Circular reflexes (0-1months) Reaction (4-8 months) Strengthens and \succ Focus is on the outside differentiates reflexes world **Primary Circular** 4. Coordination of Reaction (1-4 months) Secondary Schema (8-12 Circular pattern of months) having a stimulus and > Goal oriented behavior responding > Apply ability to other Focus is on own body things



CONCRETE OPERATIONAL STAGE (7-11 YEARS)

- ${\bf o}$ Operation: internalized action part of organized structure.
- ${\bf o}$ Mentally carried out actions
- Intelligence is demonstrated through logical and systematic manipulation of symbols related to concrete objects.
- Egocentric thought diminishes.
- Operational thinking develops.



CONCRETE OPERATIONAL STAGE CONT'D

- Piaget's Water Conservation Task
- Consist of two beakers of different sizes, one with water
- Demonstrates the following:
 - Reversibility-pour water in beaker of different size and realize that it is still the same amount.



HOW PIAGET'S THEORY IMPACTS LEARNING

- Curriculum: Educators must plan a developmentally appropriate curriculum that enhances their student's logical and conceptual growth.
- Instruction: Teachers must emphasize the critical role that experiences, or interactions with the surrounding environment play in student learning (Bybee & Sund, 1982).

FORMAL OPERATIONAL STAGE (11-15 YEARS OLD)

- Intelligence is demonstrated through the logical use of symbols related to abstract concepts.
- \circ There could be a return to egocentric thought early in the period.
- Many people do not think formally during adulthood.
- Many people do not make it to this stage.

