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|   | Piaget |
| Principle Explained | Development takes place through continueous development of mental processes and sensory processes. Cognitive development takes place in four different stage. **Principle of Conservation:** Basic properties of object such as their mass or quantity stays the same even though their outword appearance may change.  |
| New Concept Given | Development takes place through four stages of **cognitive development**. 1. Sensory Motor Stage (Development of Object permanence) 2. Pre-Operation Stage (Ability to use Symbols, Language, Memory and Imagination is developed but it's thinking non-logical and non-reversible) 3. Concrete Operational Stage (Develops conservation of Number, Length, Liquid, Mass, Weight, Area and Volume. Also learn to decenter thinking and mental actions are reversible) 4. Formal Operational Stage - (Symbols are related to abstract concept and used logically to demonstrate high level of intelligence, Only 35% graduates develops this ability) |
| Overall Dimension | **Cognitive Development:** For piaget Cognitive development was progressive reorganization of mental processes resulting from biological maturation and environmental experiences. Cognitive development means acquisition, processing, organization, and use of data and information. Cognitive processes include detecting, interpreting, classifying and remembering information. Cognition is evaluation of idea, inferring principle, and deducting rules. Cognition is all about imagination of possibilities, fantasizing and dreaming on thoughts, and generalizing or strategizing new concept or construct. Infants begins to interact with their surrounding entirely through reflexive behavior (unconscious reaction), follow their instinct, gives involuntary reactions. Infant do not think by planning. Infants learn new information through senses and then forms intentional or goal directed behavior. In childhood, child do not receive information passively. Child do not form thought merely due to teaching of other and cognition development is not merely due to maturation of brain. Cognitive development is essential for development of intelligence. Piaget has given key concept like **Schemas**- group of information helps to interpret, **Adaptation-** process of change to meet situational demand, very strong in childhood. There are two ways child adopting to changing situation 1. Assimilation 2. Accommodation (equilibrium). **Assimilation** is the process of taking new information into old schemas and **Accommodation** involves alteration of old schemas to from new schemas. A reciprocal relationship forms between cognition and brain maturation. This means brain maturation support cognitive changes and cognitive activities improves mind of the person.  |
| Dimension 1 | **Object- Permanence:** This is ability of an infant to understand about objects and animals that they are present in this world even though it is not visible and even it is not seen by him. |
| Dimension 2 | **Ego-centrism & Animism :** Children in stage 2 do not yet understand concrete logic, cannot mentally manipulate information, and are unable to take the point of view of other people, which piaget called as Egocentrism. And Animism is children's understanding about inanimate object (doll or wood dog) has the same feeling as live animals are. |
| Dimension 3 | **Conservation and Decentration:** Conservation refers to a logical thinking ability which, according to the psychologist Jean Piaget, is not present in children during the preoperational stage of their development at ages 2–7, but develops in the concrete operational stage at ages 7–11. Piaget came to understand that the ability to conserve depended upon two more fundamental cognitive or thinking skills: Decentration and Reversibility.Decentration involves the ability to pay attention to multiple attributes of an object or situation rather than being locked into attending to only a single attribute. When children are asked to compare the volume of juice in two glasses, it is their ability to decentrate that enables them to flexibly consider both the height and the width of the glasses in arriving at their decision. Younger children tend to get fixed on only one dimension or attribute of a situation, such as the height of a container, and to make their judgment of how much stuff can be fit into that container based on that single dimension. Other dimensions simply are not attended to. Through the development of decentration skills, older children start to be able to pay attention to more than one thing at at time. |
| Dimension 4 |   |
| Stage 1 | **Sensory motor stage (Birth to 2 years) -** **1. Object permanence** (Memorization through hearing, touch, vision, taste and movement): As early during infancy (till 3 months), an infant can not register external experiences through senses. However, later they understand that object or person they saw or hear exist, though it is not present within his visual or auditory arena. For some infant the period is upto 2 years and sometime even more. Object-Permanance is divided into six sub-stages. **A. Reflexes**: Infant memorize only through Sucking, grasping and looking reflex (0-1month). **B. Primary Circular Reaction-** Schema is a set of information incidently stored first time in memory, and it is repeated or reproduced by infont. Intentional repeatation of schema is called as primary circular reaction. Example-Infant acidentaly sucks to thumb and then continue to repeat this action. (1-4 months. This is also a stage of habit formation. **C. Secondary Circular Reaction-** An infant uses schema intentionaly to genrate unexpected non-desired outcome from surrounding (4-8 months) Example- Picking the ball and throwing it. **D. Coordination Reation:** Schema's are used to generate expected outcome from surrounding. The behavior is goal directed. Infant starts forming cause-effect relationship. For Example: If a toy is shown to infant and then it is coverd by towel, the infant understands that the toy exist though it is not visible.(8-12months) **E. Tertiary Circular Reaction:** An infant uses schema in coordinated maner and aiming to produce desired result and at the same time pull attention of others making diffrent sound or acts suits to given situation.(12-18 months) **F. Mental Representation:** Infant begin to develop SYMBOLS to represent event or object and people. This is the begining of infant's mental processes - Understanding world around him through mind. (18-24 months) |
| Stage 2 | **Pre-Operational Stage (2 to 7 years):** An individual learn to use symbols ( mental representation of object) and language (lexicon- the meaning of words) to demonstrate intelligence in the form of memory and imagination. However, thinking is non-logical(Egocentric) and non-reversible (No change in mental actions).  |
| Stage 3 | **Concrete Operational Stage ( 7 to 12 years)** 1. Conservation of number, length, liquid, mass, weight, area & volume. Conservation involves 2. An individual learn to manipulate symbols related to concrete objects, hence exhibit logical thinking (factor of Intelligence). Learn to reverse mental actions (Reversibility). |
| Stage 4 | **Formal Operational Stage ( 12 and above):** This is the stage of development of Pure Abstraction (Concept of higher math and philosophy of life). Intelligence is demonstrated through use of pure abstraction. It reflects in logical thinking and working independently against given problem and situation. This is the period of development of problem solving ability, decision making ability, conflict resolution ability and higher level of reasoning. unfortunately, only 35% graduates in industrial countries develops well in these domain.  |