

Piaget's Approach to Cognitive Development



- Jean Piaget (1896-1980)
 - A Swiss Psychologist credited with one of the most influential theories of cognitive development.
 - Carefully observed children
 - especially his own
 - used this information to form his theory
 - *(believed that infants learn by doing!)*



Piaget believed that ...

All children pass through a series of universal stages in a fixed order.

- A. sensorimotor
- B. preoperational
- C. concrete operations
- D. formal operations

(we will elaborate on these more later...)



Piaget believed that infants have mental structures called

SCHEMAS

(organized patterns of understanding the world)

- **Newborn schemas differ from adult schemas**
 - Reflexes (sucking & rooting)
- **Schemas become more sophisticated as motor capabilities advance**



Two principles underlie children's schemas:

1. **ASSIMILATION** is when people understand an experience in terms of their current stage of cognitive development and way of thinking.
 - sucking on every toy the same way
 - calling all animals "dogs"
2. **ACCOMMODATION** is change in existing ways of thinking that occur in response to encounters with new stimuli or events.
 - sucking on things based on shape, calling only flying animals "birds"



Piaget's Theory of Cognitive Development

- Stage 1: Sensorimotor (0-2)
 - Object Permanence
 - the awareness that things continue to exist even when not perceived
 - Mental representation
 - Self recognition



Piaget's Theory

- Stage 2:Preoperational (2-7)

- Symbolic Play

- Egocentric thought

- the inability of the preoperational child to take another's point of view



Piaget's Stages of Cognitive
Development

Concrete Operational Stage

Piaget's Stages

- Stage 3: Concrete Operational (7-11)

- Principle of Conservation

- the principle that properties such as mass, volume, and number remain the same despite changes in the forms of objects

- Stage 4: Formal Operational



Abstract thought and logical reasoning

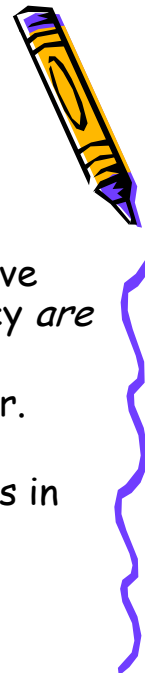
Evaluating Piaget's Approach to Cognitive Development

- **Critics of Piaget's theory argue that he seriously underestimated children's capabilities.**
 - They argue that cognition develops in a continuous manner, not in stages.
 - They believe that training can improve performance in conservation tasks.
 - They also argue that Piaget focused too much on the *deficiencies* of young children's thought.



Evaluating Piaget...

- Most developmentalists agree that Piaget's descriptions of how cognitive development proceeds during infancy *are accurate*.
- Piaget considered a master observer.
- Studies show that children do learn about the world by acting on objects in their environment.



Piaget's Stages of Cognitive Development

Typical Age Range	Description of Stage	Developmental Phenomena
Birth to nearly 2 years	<i>Sensorimotor</i> Experiencing the world through senses and actions (looking, touching, mouthing)	•Object permanence •Stranger anxiety
About 2 to 6 years	<i>Preoperational</i> Representing things with words and images but lacking logical reasoning	•Pretend play •Egocentrism •Language development
About 7 to 11 years	<i>Concrete operational</i> Thinking logically about concrete events; grasping concrete analogies and performing arithmetical operations	•Conservation •Mathematical transformations
About 12 through adulthood	<i>Formal operational</i> Abstract reasoning	•Abstract logic •Potential for moral reasoning



Vygotsky's View of Cognitive Development: Taking Culture into Account

- Culture and societies influence cognitive development.
- Cognition proceeds because of social interactions where partners jointly work to solve problems (contrasts with Piaget's emphasis on individual figuring things out alone).



Vygotsky's Sociocultural Theory of Cognitive Development

- Developed three main developmental ideas:
 - Internalization
 - Zone of Proximal Development
 - Scaffolding



Cognition proceeds because of social interactions where partners jointly work to solve problems...

- The partnership is determined by cultural and societal factors
 - Institutions that promote development (play groups, preschools)
 - Emphasizing certain tasks (school, work)



According to *Vygotsky*, children's cognitive abilities increase when information is provided within their **ZONE OF PROXIMAL DEVELOPMENT (ZPD)**, *the level at which a child can almost, but not fully, perform a task independently, but can do so with the assistance of someone more competent.*



(Vygotsky's ZONE OF PROXIMAL DEVELOPMENT (ZPD), continued)

- The assistance provided by others is called **SCAFFOLDING**, *the support for learning and problem solving that encourages independence and growth.*
- The aid that more accomplished individuals provide to learners comes in the form of *cultural tools* (the actual physical items such as pencils, paper, calculators, and computers)



- Vygotsky's view has become increasingly influential in the last decade.
- It helps explain a growing body of research attesting to the importance of social interaction in promoting cognitive development.

Criticisms...

- The zone of proximal development is not precise and not easily testable.
- His theory is silent on how basic cognitive functions such as attention and memory develop.

