

CHAPTER 4: THEORIES OF COGNITIVE DEVELOPMENT

PIAGET'S THEORY- From birth onward they are active mentally as well as physically and are active in contributing to their own development (constructivist and children as scientists)

- **Nature and Nurture-** interact to produce cognitive development
 - **Nurture-** includes not only the parents upbringing but every experience the child encounters
 - **Nature-** child's maturing brain and body and their ability to perceive, act and learn from experience
 - **Adaptation-** tendency to respond to the demands of the environment in ways that meet ones goals
 - **Organization-** tendency to integrate particular observations into coherent knowledge
- **Continuity**
 - **Assimilation-** process which people adapt their current understandings into concepts they already understand (frizzy hair → clown)
 - **Accommodation-** people adapt their current understandings in response to new experiences
 - **Equilibration-** process by which people balance assimilation and accommodation to create a stable understanding
 1. **Equilibrium-** children are satisfied with their understanding of a phenomenon
 2. **Disequilibrium-** new information leads children to perceive that their understanding is inadequate because they recognize shortcomings in their understanding but cannot generate a superior alternative
- **Sources of Discontinuity**
 - **Qualitative change-** different ages think in qualitatively different ways (jar of cookies breaking vs. stealing one cookie)
 - **Broad applicability-** thinking characteristic influences ways of thinking
 - **Brief transitions-** before entering a new stage children fluctuate between the type of thinking characteristic of the old and new stage
 - **Invariant sequence**
 - **Sensorimotor-** 0-2years when intelligence is expressed through sensory and motor abilities. ACTIVE CHILD
 - **Modify reflexes-** 0-4 months
 - **Object permanence-** Lack the knowledge that objects continue to exist outside of view 4-8mos
 - **A not B error-** once 8-12 months have reached for and found a hidden object several times in the same place when they see the object hidden in a different place (B) and are prevented from immediately searching for it they tend to look where they initially found it (A).

- **Explore object affordances-** 12-18 mos
- **Deferred imitation-** repetition of other people's behaviors after they have occurred. 18-24 mos
- **Preoperational-** 2-7 when children become able to represent their experiences in language, mental imagery and symbolic thought. LACK OF UNDERSTANDING OF:
 - **Symbolic representations-** use of one object to stand for another (popsicle sticks as guns). conservation
 - **Egocentrism-** perceiving the world solely from their own point of view.
 - **Centration-** focusing on a single perceptually striking feature of an object or event to the exclusion of other relevant but less striking features
 - **Conservation concept-** merely changing the appearance or arrangement of objects does not necessarily change their key properties.
- **Concrete operational-** 7-12 when children become able to reason logically about concrete objects and events
 - Can solve conservation problems
 - Focus on multiple dimensions
 - Cannot think systematically reasoning limited to concrete situations
- **Formal operational-** 12+ people become able to think about abstractions and hypothetical situations. Not all adolescents reach this stage.
 - Abstract reasoning
- **Weaknesses in Piaget's theory**
 - Overestimates consistency
 - Vague mechanisms
 - Underestimates children's knowledge
 - Understates social world

INFORMATION PROCESSING THEORIES- envision children as active learners and problem solvers who continuously devise means for overcoming their processing limits and reaching their goals.

- **Task analysis-** identification of goals, relevant information in the environment and potential processing strategies.
- **Continuous**
- **Child as a Limited-Capacity Processing System**
 1. Expansion of the amount of information they can process at one time (hardware)
 2. Increasing efficiency (hardware)
 3. Acquisition of new strategies and knowledge (software)
- **Children as Problem solvers-** involves a goal, a perceived obstacle and a strategy or rule for overcoming the obstacle and attaining the goal

- **Utilization deficiency-** initial uses of strategies do not improve memory as much as later uses
- **Development of PROBLEM SOLVING**
 - **Overlapping waves theory-** information processing approach that emphasizes the variability of children's thinking.
 - At one age children use multiple strategies and with age and experience they rely increasingly on more advanced strategies and development involves changes in use of existing strategies as well as discovery of new approaches.
 - **Planning-** children learn to plan before acting
 - **Analogical Reasoning-** understand new problems by drawing analogies to familiar ones.

CORE KNOWLEDGE THEORIES- children as well equipped due to evolution

- **View of Children's Nature-** depict children as active learners who enter the world with specialized learning abilities to all them to acquire information quickly and effortlessly
 - **Chomsky-** children also have specialized language learning mechanisms that allow them to rapidly master the complicated systems of grammatical rules. All acquire the same basic grammar (universality of language acquisition)
- **Developmental Issues**
 - **Domain Specificity-** understandings are limited to a particular area like living things. Allow infants to distinguish between living and nonliving things. **Physics, biology and psychology**
 - **naïve theories-** Categorize, and explain fundamental principles and causes but not deductive systems.
 - **Psychology-** understanding other people's actions reflect their goals and desires
 - **Physics**
 - **Biology-** distinguishes animals from plants and inanimate objects

SOCIOCULTURAL THEORIES- emphasize that other people and the surrounding culture contribute to children's development

- **Guided participation-** more knowledgeable individuals ORGANIZE activities in ways that allow less knowledgeable people to learn and complete
- **Cultural tools-** the innumerable products of human ingenuity that enhance thinking (symbol systems, artifacts, skills, values)
- **View of Children's Nature:**
 - **Vygotsky's Theory:** social beings intertwined with other people who are eager to help them gain skills and understanding.
 - Children are social beings shaped by and shaping their cultural contexts and inclined to teach others and learn
 - Behavior is controlled by:
 - other people's statements