CHAPTER 11:
COGNITIVE DEVELOPMENT IN MIDDLE CHILDHOOD

• Piaget saw ________________ as a major cognitive turning point from preoperational thinking to more advanced ________________ operational thought.

• Many contemporary researchers see a major transition at about ________________.

CONCRETE OPERATIONAL STAGE

• Children can now perform __________________________ (e.g., reversibility)

• Major accomplishment = ________________________________

• Overcome centration:
  • Overcome ________________________________.
  • Logical thinker of specific ________________________________.
  • Increase in ________________________________.
  • Increase in information-processing capacity

• Control over attention & memory

  Cognitive Limitations That Remain Include:

  • limited ________________________________
  • difficulty applying recently acquired skills (mnemonic strategies)
  • an inability to reason about ________________, hypothetical problems – problems must be ________________________________.

PIAGET vs. INFORMATION PROCESSING

• Piaget believes that there is a ______________________ in children’s ability to reason logically.
  o Qualitative change: a completely new system of logic.
• **Information Processing Theorists** argue that changes are a result of __________

• **Quantitative change:**
  
  o **Implicit unconscious** use of rule.

**Information Processing Theory**

**Development of Problem Solving Rules**

• **Conservation of Number Task:**
  
  • **3 yrs:**
  
  • **6 yrs:**
  
  • **7 yrs:**

**MEMORY ABILITIES DEVELOPMENT OF BASIC MEMORY PROCESSES**

• **Short-term memory improves**
  
  o Increase in efficiency: mnemonics and automaticity
  
  o Increases in capacity
    
    ▪ 5 year olds digit span = 4
    ▪ 7 year olds digit span = 5
    ▪ 9 year olds digit span = 6
    ▪ Adults digit span = 7

  o **Increase in Cognitive inhibition** –

• **Robbie Case**
  
  o Storage space
  
  o Operating space
Memory & Growth of General Knowledge

- Domain specific knowledge (expertise):
  - Chi (1978): Novice Adults vs. 10 y.o. children experts.
    - Remembering 10-digit lists vs. reproducing chess positions.
    - Random Chess Positions = No meaning for experts
    - Actual Chess Positions = have meaning for expert chess players

- Semantic Memory

- Constructive memory:
  - influence on recall accuracy

MNEMONIC STRATEGIES

<table>
<thead>
<tr>
<th>Mnemonic strategies</th>
<th>Intentional, goal-directed behaviors designed to improve memory.</th>
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<tbody>
<tr>
<td>Rehearsal</td>
<td>The mnemonic strategy of</td>
</tr>
<tr>
<td>Organization</td>
<td>The mnemonic strategy of</td>
</tr>
<tr>
<td>Elaboration</td>
<td>The mnemonic strategy of creating a</td>
</tr>
</tbody>
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- Children begin to use these strategies consistently at about _____________________

- Serial Position Effect - Rundus (1971)
  - Recency Effects
  - Primacy Effects
• **A Developmental Trend:**

• Ornstein, Naus, & Liberty (1975):  
  
  - primacy effect
  
  - recency effect

  - Does training help?

• **Memory Strategies:** Researchers have identified 3 types of deficiencies in children’s use of memory strategies.

  - Mediation deficiencies
  
  - Production deficiencies
  
  - Utilization deficiencies

**MNEMONIC STRATEGIES**

• **Children > 7 yrs will initiate some activity to improve recall**

  - Why ↑ use of strategies with age?

    • direct teaching in school
    
    • indirect learning
    
    • general knowledge of the world
    
    • metamemory

**METACOGNITION:**

Metamemory:

• Once children realize mnemonic strategies improve recall, they are more likely to use them.

• Many 5- and 6-year-olds can think of only one strategy; older children think of more.

• Flavell, Friedrichs, & Hoyt (1970)
Middle Childhood Cognitive & Social & Emotional

Individual Differences in Intelligence

Intelligence: Psychometrics

- **Reliability**
  - Test-Retest:

- **Validity**
  - Construct Validity:
    - Predictive Validity:

- **Standardization**

- **Intelligence Testing**
  - First intelligence test by Binet.
  - Revised as the Stanford-Binet.
  - Wechsler scales now more widely used.
    - Intelligence Quotient:
    - Alternatives to standard IQ tests/definitions

BROADENING THE DEFINITION OF INTELLIGENCE

- **Academic intelligence:**

- Gardner's Theory of Multiple Intelligences

- Sternberg's Triarchic Theory
Explaining IQ Differences

- There is evidence for both **genetic** and **environmental** influences on IQ.
- The hereditary influence involves **many** genes.

**Reaction range**

The Stability of IQ

- Stability of IQ increases with age.
- By elementary school years, intelligence tests seem to measure relatively stable aspects of cognitive functioning.
- As children grow older, IQ tests become increasingly good predictors of adult IQ.

**How Meaningful Are IQ Scores?**

- Ever since IQ scores were introduced, people have debated their value.
- The controversy centers on issues of _________________ and the question of just what an IQ score can _________________.

**Cultural bias can affect IQ tests many ways:**
- language fluency
- knowledge of cultural references
- cultural differences in definitions of intelligence
- setting in which test is given
- Stereotype Threat

- To overcome problems of culture bias, some psychologists have tried to develop IQ tests that are:
  - **culture-free**
  - **culture-fair**

- Attempts to develop these have not generally succeeded.
- IQ tests offer effective comparisons *within* the same culture or subculture.
What IQ Scores Can Predict

- **Predictive Validity:**
  - In general, IQ tests are fairly good predictors of _____________________________
  - Childhood IQ may predict long-term success in occupations that require abstract thought.
  - Adult IQ scores are good predictors of success in
MORAL DEVELOPMENT

- The process by which an individual comes to understand what society accepts as right and wrong.

THEORIES OF MORAL DEVELOPMENT

- **Cognitive Theories**: emphasis on moral reasoning & related to cognitive development.

  - Moral development depends on:

  - There are 2 major cognitive theorist:

  
  **Piaget’s Cognitive Theory of Moral Development**

- **Piaget** used 2 methods to study Moral Dev:

  - Questions pertaining to rules involved in playing games:

- **Stages of Rule Development**: Children Playing Games

  - **Preschoolers**:

  - **Age 6**:

  - **Age 10**:

- **Moral Dilemmas**

  - A: **John** accidentally breaks 15 cups while responding to his mom’s call to dinner. 15 cups were on a tray on a chair behind the door.

  - B: **Henry** tried to get some jam out of the cupboard while his mom was not home. He climbed on a chair and stretched his arm but could not reach the jam. But while doing this he knocked one cup over and it broke.
Responses to Moral Dilemmas:
“Which boy is naughtier?”

- **First stage: Moral Realism** (< 10 yrs) objective visible consequences of an act.

- **Second Stage: Moral Relativism** (10 yrs +) The motives or intentions of the person are considered.

- Decreasing egocentrism
- Interaction with peers
- Parents pointing out consequences of child’s actions

**Evaluating Piaget’s Theory**
SOCIAL & EMOTIONAL DEVELOPMENT
MIDDLE CHILDHOOD

PEER POPULARITY & ACCEPTANCE MEASURING PEER ACCEPTANCE

- Sociometric Nomination:

- Sociometric Rating Scales:

- Peer Status:
  - Popular
  - Rejected
  - Neglected
  - Controversial

WHAT CHARACTERISTICS ARE RELATED TO POPULARITY?

Entry Into An Unknown Group: Kenneth Dodge

- Characteristics of popular children

- Characteristics of unpopular children
  - Rejected
  - Neglected
BULLIES AND CHILDREN WHO ARE CHRONICALLY VICTIMIZED BY THEIR PEERS

- Approximately ______________ of children fall into each of these categories.

- A number of studies have documented ____________________________ among middle-school aged children.

- **Schwartz, Dodge, and Coie (1993)**
  - unacquainted 6- and 8-year-old boys who interacted on 5 consecutive days

CAN PEER STATUS BE IMPROVED?

- **SOCIAL SKILLS TRAINING.**

  - It is thought that training in social skills leads to increased peer acceptance in two ways.

- The greatest obstacle to the success of social skills training is often …?

  **Kenneth Dodge’s Five-Stage Model of Social Competence**

  - **Encoding →**

  - **Interpretation Of Cues**

  - **Response Search Process →** generate one or more potential responses
    - nonaggressive rejected children may have problem here

    - **Rabiner, Lenhart, & Lochman (1990)**
      - invoke automatic problem solving
      - invoke reflective problem solving

  - **Response Decision Process**

  - **Enactment Process**