



Chapter 10: Cognition: Thinking and Language
General Psychology
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Chapter Outline

- Thinking
- Problem Solving
- Reasoning/Decision Making
- Creativity
- Language

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Thinking: Forming Concepts

- Concepts: Mental categories for similar objects
 - artificial- clearly defined by set of properties
 - tomato is a fruit
 - natural- fuzzy; defined in terms of prototypes
 - shirts and pants fit within clothing
- How are concepts represented in consciousness?
 - features/attributes
 - visual images
- Verbal Protocol Analysis- subjects “think aloud” in order to study cognitive processes

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Stages of Problem Solving

- Representing the problem
- Generate possible solutions
- Evaluate Solutions

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Reasoning

- Reasoning: Drawing conclusions from available information
 - formal- clearly defined premises – (deductive reasoning)
 - Hypothetical syllogism
 - everyday- complex, less clear-cut premises – (inductive) much more commonly used
- Faulty reasoning results from:
 - distortion of emotions (moods)
 - confirmation bias- search for positive evidence
 - hindsight effect- “I knew it all along”

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Problem Solving

- Methods for Problem Solving
 - trial and error
 - hypothesis testing
 - heuristics
 - algorithms
 - analogy
- Effective Problem Solving
 - heuristics
 - metacognitive processing- observe self in the process
- Deterrents to Problem Solving
 - functional fixedness- see objects in only one way
 - mental set- stick with familiar methods



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Creativity

- Creativity: Ability to produce work that is both original and appropriate
- Creativity involves:
 - intellectual ability (see problems in new ways)
 - knowledge of given field
 - thinking style (think globally and locally)
 - personality traits (take risks)
 - intrinsic motivation (love for one's work)
 - supportive environment

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Language

- Primary symbol system
- Structure and rules of language
 - Phonemes – basic sounds in a spoken language
 - Morphemes – smallest unit of meaning in a language
 - Syntax – grammar
 - Semantics - meaning
- Theories of Language Acquisition
 - Learning Perspective – Observational learning (Bandura) and operant conditioning (Skinner) processes.
 - Genetic Perspective – Language Acquisition Device (LAD – Chomsky)
 - Both clearly play a role in overall development

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Process of Language Acquisition

- Early vocalizations – infancy
 - Prelinguistic
 - Cooing
 - Babbling
- First words - Starts about 1 year
 - Holophrastic
- Condensed Speech
 - Telegraphic
 - Similar across cultures/languages
- Expanded language - 2 to 5/6 Year Language Explosion
 - Progression from under 300 word vocabulary to over 30x that number – by age 6, approx 10,000 word vocabulary and adult-like speech

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