

# Cognitive Development in Infants and Toddlers

PSY 356  
Dr. Schuetze

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## Topics

- Cognitive Development – Piaget
- Language Development

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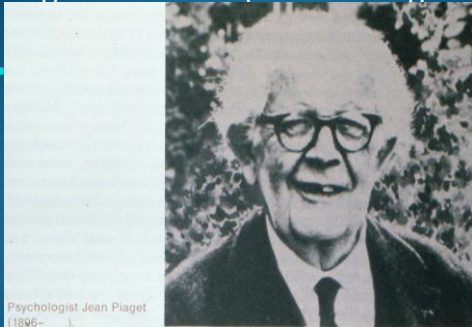
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## Cognitive Development - Piaget



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## Constructivism

- The belief that children actively create knowledge rather than passively receiving it from the environment.
  - Knowledge is constructed from experience
  - Born with ability and desire to learn.
  - Must be active to learn.
  - Thinking/learning is internalization of physical knowledge.

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## Adaptation

- Fundamental process by which schemes are altered through experience.
- Comprised of two complementary processes.

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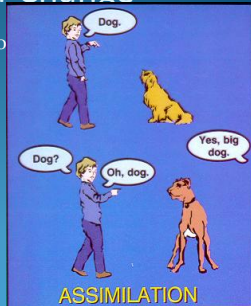
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## Mechanisms of Change

- Assimilation: fits into structure
  - schemas



Assimilation is placing new information in existing schema.

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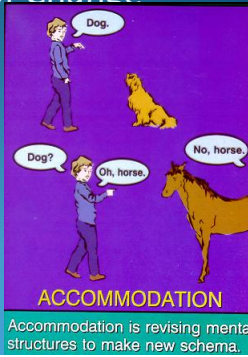
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## Mechanisms of Change

- Accommodation: fit new conceptual



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## Equilibration

- Equilibration: regulatory process that maintains a functional balance between assimilation and accommodation

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## Process of Equilibration

- Children are satisfied with mode of thought (equilibrium)
- Become aware of shortcomings in existing knowledge (disequilibrium)
- Adopt a more sophisticated mode of thought (return to equilibrium)

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**State of Equilibrium**  
 Current understanding of the world (internal data) is consistent with external data.



Small furry animals with fluffy tails are called cats. They meow and smell nice.

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**Dis-equilibrium**  
 Aking comes a new piece of information that doesn't fit with current understanding of the world, leading to **disequilibrium**—an uncomfortable state of mind that the child seeks to resolve.



That's strange—this small furry creature has a fluffy tail but it doesn't meow and it certainly doesn't smell nice.

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**Assimilation and Accommodation**  
 This unbalanced (confused) state can be resolved through the processes of organization and adaptation (assimilation and accommodation).



This can't be a cat. Mommy called it a skunk, which must be a different kind of animal.

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**Equilibrium**  
 These lead to a new way of understanding the world—a new state of equilibrium.



I'll have to remember that skunks and cats are different types of animals.

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## Characteristics of Stages of Cognitive Development

- Each stage represents a qualitative change in thinking
- Culturally Invariant
- Includes structures and abilities of previous stages

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## Stages of Cognitive Development

- Sensorimotor
- Preoperational
- Concrete Operational
- Formal Operational

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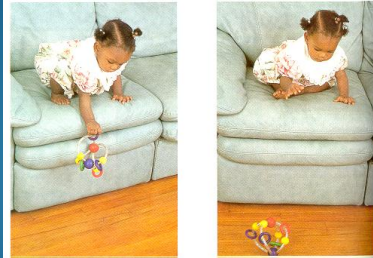
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## Sensorimotor Stage

- Birth to 2 years of age
- Use senses, motor skills to gain knowledge



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## Piaget – Object Permanence



<http://www.youtube.com/watch?v=ue8fy-JVhjSQ>

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## Language

- Special form of communication in which we learn complex rules to manipulate symbols that can be used to generate an endless number of meaningful sentences.
  - Communication
  - Set of Symbols
  - Complex Rules
  - Endless Number of Meaningful Sentences

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## Prelinguistic Stage

- Birth to 1 year
- Crying
- Cooing
- Babbling
- Language Comprehension
- Ability to make discriminations not required by native language gradually lost :  
<http://www.youtube.com/watch?v=WXWGnryjEaY>

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## Linguistic Stage

- 1 year and up
- Holophrases
  - Infant-directed Speech
  - Overextension
  - Underextension

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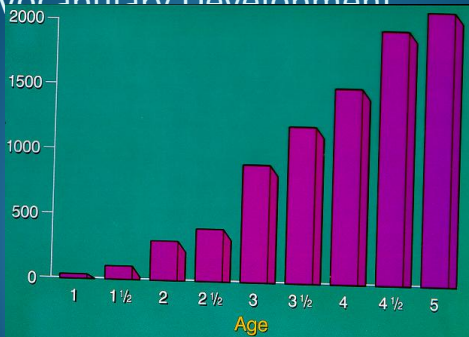
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## Vocabulary Development



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## Linguistic Stage

- Two-word combinations
- Telegraphic Speech
  - errors of overgeneralization

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## Errors of Overgeneralization




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## Language Development

- 6 Months**
  - Vocalization with intonation
  - Responds to human voices without visual cues by turning his head and eyes
- 12 Months**
  - Uses one or more words with meaning
  - Understands simple instructions
- 18 Months**
  - Has vocabulary of approximately 5-20 words




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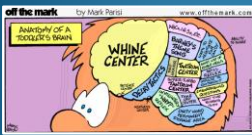
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# Language Development



- 24 Months**
  - Can name a number of objects common to his surroundings
  - Approximately 2/3 of what child says should be intelligible
  - Vocabulary of approximately 150-300 words
  - My and mine are beginning to emerge
- 36 Months**
  - Knows chief parts of body and should be able to indicate these if not name
  - Handles three word sentences easily
  - Has in the neighborhood of 900-1000 words
  - About 90% of what child says should be intelligible

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