Early Cognitive Development

Development in Infancy

- Reflexes
- Motor development
  - Cephalocaudal and proximodistal
  - Fine and gross motor
- Sensory capacities
Piaget’s Constructivist Theory

Children learn by an active process of adaptation, assimilation, and accommodation.
### An Example of Assimilation vs. Accommodation

**An Example of Assimilation vs. Accommodation**

- Sabine's schema for “doggie” is a 4-legged animal.
  - And then for the first time she encounters a cow.
  - **Assimilation**: When Sabine sees a cow, she says “doggie”.
  - **Accommodation**: Doggie is a small 4-legged animal in the house. Cow is a large 4-legged animal on a farm.

**An Example of Assimilation vs. Accommodation**

And then at the farm for the first time Sabine sees a horse.

- **Assimilation**: When Sabine sees a horse on the farm, she says “cow”.
- **Accommodation**: Cow says “moo” and horse says “neigh”.
Application Question

When 18-month-old James is given peas for the first time, he picks one up, throws it, and says “ball.” According to Piaget’s theory, James is most likely __________ the pea into his ball scheme.

A) accommodating
B) organizing
C) equilibrating
D) assimilating

Be prepared to defend your answer.

Application Question

Two-year-old Viola calls her father’s swimming goggles “water glasses.” According to Piaget’s theory, Viola is most likely

A) accommodating.
B) assimilating.
C) organizing.
D) equilibrating.

Be prepared to defend your answer.
Piaget’s Stages of Cognitive Development

**SENSORIMOTOR STAGE**
- The child begins to interact with the environment.
- 0-2

**PREOPERATIONAL STAGE**
- The child begins to represent the world symbolically.
- 2-6 or 7

**CONCRETE OPERATIONAL STAGE**
- The child learns rules such as conservation.
- 7-11 or 12

**FORMAL OPERATIONAL STAGE**
- The adolescent can transcend the concrete and think about the future.
- 17-Adulthood

Infant Cognition – Sensorimotor Stage (Birth-2)

**Plaget’s Description of Sensorimotor Thought**

- Ability to organize and coordinate sensations with physical movements
- Consists of six substages of cognitive development
- Object permanence develops

- Is nonsymbolic through most of its duration
### Sensorimotor Stages

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<tbody>
<tr>
<td>1</td>
<td>Reflexive Circular Reactions</td>
<td>Birth to 1 month</td>
<td>Newborn reflexes</td>
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<td>Primary Circular Reactions</td>
<td>1 to 4 months</td>
<td>Repetitive behaviors centered around own body</td>
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<td>4 to 8 months</td>
<td>Repetitive behaviors centered on objects in surroundings</td>
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<td>Coordination of Secondary Circular Reactions</td>
<td>8 to 12 months</td>
<td>Combining behaviors; intentional, goal-directed behavior; object permanence starts</td>
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<td>5</td>
<td>Tertiary Circular Reactions</td>
<td>12 to 18 months</td>
<td>Get reactions from others; explore objects through novel actions</td>
<td><a href="https://youtu.be/6aT0v5Sg0Wg">https://youtu.be/6aT0v5Sg0Wg</a></td>
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<td>6</td>
<td>Mental Representations</td>
<td>18 – 24 months</td>
<td>Internal representations of objects/events; deferred imitation</td>
<td><a href="https://youtu.be/awqrxNRbDy0">https://youtu.be/awqrxNRbDy0</a></td>
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### Application Activity

Exploring Piaget’s Sensorimotor Stages

1. Complete the application worksheet.
2. Discuss your answers in teams.
Application Question: Exploring Language Development

Claude gets his mother’s attention by making a kind of grunting noise and then looks at the ball just out of his reach. Claude’s attempt to communicate his desire for the ball is an example of

A) semantics.
B) babbling.
C) language.
D) prelinguistic communication.

Language Development

• Phonology
• Semantics
• Syntax
• Pragmatics
Phonology

Sound system of the language

• Around 2 months cooing emerges
• By 6 months old, babies have begun to lose their ability to discriminate sounds that are not important to their native language
• By 9 months, their babbling is limited to only the sounds of their native language
• Babbling becomes jargoning just before words appear
  • https://youtu.be/3f3rOz0NzPc

Semantics

Words and word parts that carry meaning

• First words appear by the end of the 1\textsuperscript{st} year, and a vocabulary spurt begins by 18-24 months
• Holophrases –over/under-extensions
• Telegraphic speech
Syntax

System of rules for generating and decoding sentences

- 2-word utterances are produced about the time of the vocabulary spurt
- Sentence structures are produced by age 5

Pragmatics

Learning to use language effectively to communicate

Application: Session Review