Chapter 7 Study Guide

I. Studying Cognitive Development: Six Approaches

- **Behaviorist approach:** Studies the basic mechanics of ____________.
- **Psychometric approach:** Seeks to ________ the quantitative differences in __________ abilities.
- **Piagetian approach:** Looks at changes or stages in the __________ of cognitive functioning.
- **Information-processing approach:** Focuses on the ________ involved in perception, learning, __________, and problem solving.
- **Cognitive neuroscience approach:** Examines the “hardware” of the central nervous system.
- **Social-contextual approach:** Examines the impact of ________ aspects of the learning process, particularly the role of __________ and other __________.

II. Behaviorist Approach: Basic Mechanics of Learning

- **Habituation:** A form of __________ that information-processing researchers study.

  A. Classical and Operant Conditioning

  - **Classical conditioning:** A person or animal learns to make a reflex __________ to a __________ that originally does not provoke the response.
  - **Extinct:** When a behavior fades after reward is removed.
  - **Operant Conditioning:** A person or animal acts or operates on the __________.

B. Infant Memory

  - **Theories suggesting why people don’t remember events prior to age 2.**

III. Psychometric Approach: Developmental and Intelligence Testing

- **Intelligent behavior:** __________ and __________, directed at adjusting to the circumstances and conditions of life.
- **IQ (intelligence quotient) tests:** Psychometric test that seeks to show how ________ of measured abilities a person has by comparing a test-taker’s ____________ with those of other test-takers.

  A. Testing Infants and Toddlers

  - **Bayley Scales of Infant Development:** Standardized test of infant’s mental and motor development.
    - **Mental scale:** Measures abilities such as __________, memory, learning and vocalization.
    - **Motor scale:** Measures motor skills such as sitting, standing, grasping, and sensory-motor __________.
    - **Behavior rating scale:** Examiner rates behavior.
    - **Developmental quotients:** Calculated for each scale, early detection of emotional disturbances, learning problems, and sensory, neurological and environmental deficits (DQs).
B. Assessing the Impact of the Home Environment
- **Home Observation for Measurement of the Environment (HOME):** Instrument to measure the _________ of the home _________ on children’s cognitive growth.

D. Early Intervention
- **Early Intervention:** Systematic process of planning and providing _________ and _________ services to families to help meet young children’s developmental needs.

IV. **Piagetian Approach: The Sensorimotor Stage**
- **Sensorimotor Stage:** In Piaget’s theory, the first stage in cognitive development, from birth to __________, during which infants learn through sensory and motor activity.

A. Substages of the Sensorimotor Stage
- **Schemes:** Piaget’s term for organized _________ of _________ used in particular situations.
- **Circular reactions:** Piaget’s term for processes by which an infant learns to _________ desired occurrences originally discovered by chance.
  - **First substage** (birth to about 1 month): Neonates begin to exercise some control over their inborn _________.
  - **Second substage** (about 1 to 4 months): Babies learn to repeat a pleasant bodily sensation first achieved by chance. Piaget’s Primary circular reactions.
  - **Third substage** (about 4 to 8 months): Babies engage in Secondary circular reactions; intentional actions _________ not merely for their own sake, but to get results beyond the infant’s own _________.
  - **Fourth substage, coordination of secondary substages** about (8 to 12 months): Infants learn to generalize from past experience to solve new _________ and to distinguish means from ends.
  - **Fifth substage** (about 12 to 18 months): Babies begin to experiment with new behaviors to see what will happen. They now engage in Tertiary circular reactions, varying an action to get a similar _________ rather than just _________ pleasing behavior that they have accidentally discovered.
  - **Sixth substage, mental combinations** (about 18 months to 2 years): Transition into the preoperational stage of early childhood.
  - **Representational ability:** Piaget’s term for the capacity to _________ represent objects and experiences, largely through the use of _________ such as words, numbers and mental pictures.

B. Do Imitative Abilities Develop Earlier Than Piaget Thought?
- **Invisible imitation:** Imitation using parts of the body the baby _________ see.
- **Visible imitation:** Imitation using parts of the body the baby _________ see.
- **Deferred imitation:** Repeating actions they no longer see in front of them.
• **Elicited imitation:** Researchers induce infants and toddlers to __________ a specific series of actions they have seen but not necessarily done before.

• **Pretend play:** Also called *fantasy* or __________ play which uses representational abilities.

C. **Development of Knowledge about Objects and Space**

• **Object concept:** The idea that objects have their own ______________ existence, characteristics, and location in space; fundamental to an orderly view of physical reality.

D. **When Does Object Permanence Develop?**

• **Object permanence:** Piaget’s term for the realization that a person or object still __________ when out of sight.

• **A, not-B error:** Tendency for 8 to 12 month old infants to __________ for a hidden object in a place where they previously found it rather than in the place where they most recently saw it being ______________.

E. **Symbolic Development, Pictorial Competence, and Understanding of Scale**

• **Symbols:** Intentional representations of __________.

• **Symbol-minded:** Attentive to symbols and their ______________ to the things they represent.

• **Pictorial competence:** The ability to understand the nature of pictures.

• **Scale errors:** Momentary ______________ of the relative sizes of objects.

• **Dual representation hypothesis:** Child has to mentally represent both the symbol and its relationship to the thing it stands for at the same time.

F. **Evaluating Piaget’s Sensorimotor Stage**

1. **Information-Processing Approach: Perceptions and Representations**

G. **Habituation**

• **Habituation:** A type of learning in which __________ or continuous exposure to a stimulus ____________ attention to that stimulus.

• **Dishabituation:** Increased attention to a new stimulus.

H. **Visual and Auditory Processing Abilities**

• **Visual preference:** Tendency of infants to spend more time looking at one sight than another; an indication of an ability to make visual distinctions.

• **Visual recognition memory:** Ability to distinguish a familiar visual ______________ from a novel one when shown both at the same time.

• **Cross-modal transfer:** Ability to use ______________ gained by one sense to guide another.

• **Joint attention:** (joint perceptual exploration) When babies respond to adult’s gaze by looking or pointing in the same direction.
I. Information Processing as a Predictor of Intelligence

- **Visual expectation paradigm:** Computerized measurements of visual reaction time and visual anticipation are used to __________________________ and processing speed as well as the __________________________ on the basis of experience.

J. Information Processing and the Development of Piagetian Abilities

1. **Categorization**
   - **Categorization:** The ability to group things into categories based on shared characteristics.

2. **Causality**
   - **Causality:** The principle that one event causes another.

3. **Object permanence**
   - **Violations-of–expectations:** Research method in which dishabitation to a stimulus that conflicts with previous experience is taken as evidence that an infant recognizes the new stimulus as surprising.

4. **Number**

5. **Evaluating Information Processing Research on Infants**

   - **Innate learning mechanisms:** Reasoning abilities infants are born with or acquire very early.
   - **Core knowledge:** Intuitive _____________ of basic physical principles that help infants or ___________ perceptions and observations.
   - **Violation-of-expectations studies:** May reveal a conceptual understanding of the way things work or merely a perceptual awareness that something unusual has happened.

   a. **Cognitive Neuroscience Approach: The Brain’s Cognitive Structures**
      - **Implicit memory:** Memory that occurs __________ effort or conscious awareness such as habits or skills.
      - **Explicit memory:** (Declarative memory) Memory that is an ___________ and conscious recollections of facts, names or events.
      - **Prefrontal cortex:** The large portion of the frontal ________ directly behind the forehead.
      - **Working memory:** Short-term storage of information which is being actively processed.

   b. **Social-Context Approach: Learning from Interactions with Caregivers**
      - **Guided participation:** Mutual _____________ with adults that help structure children’s activities and bridge the _________ between the children’s understanding and the adult’s.

V. **Language Development**

- **Language:** Communication system based on _________. _____________ and _____________ development.

A. Sequence of Early Language Development
• **Prelinguistic speech**: Forerunner of linguistic speech; utterance of sounds that are not __________. Includes crying, cooing, babbling, and accidental and deliberate imitation of sounds without understanding their meaning.

1. **Early Vocalization**
   • *Crying*: Newborn’s only means of communication.
   • *Cooing*: Sounds made between 6 weeks and 3 months when babies are happy.
   • *Babbling*: ____________ consonant-vowel strings.
   • *Imitation of language sounds*: Infants ____________ imitate sounds without understanding them.

2. **Perceiving Language Sounds and Structure**
   • *Neural commitment*: Ongoing process of pattern perception and categorization seems to commit the ____________ neural networks to further learning of similar patterns.
   • *Phonemes*: Basic sounds.

3. **Gestures**
   • ____________ (between 9 and 12 months): Waving bye-bye, nodding yes, and shaking head no.
   • *Representational gestures* (about 13 months): Using gestures to indicate need or want.
   • *Symbolic gestures* (about 12 to 14 months): Using gestures to refer to specific objects, events, desires or conditions.

4. **First Words**
   • *Linguistic speech*: Verbal expression designed to convey meaning.
   • *Holophrase*: ____________ word that conveys a complete thought.
   • *Passive vocabulary*: Receptive or understood vocabulary.
   • *Expressive vocabulary*: Spoken vocabulary.

5. **First Sentences**
   • *Telegraphic speech*: Early form of sentence consisting of only a few essential words.
   • *Syntax*: ____________ for forming sentences in a particular language.

B. **Characteristics of Early Speech**

1. **Children**
   • *Simplify*: Use telegraphic speech to say just enough to get their meaning across.
   • *Understand grammatical relationships they cannot yet express.*
   • *Underextend word meanings*: Restricting the use of a word to a single object.
   • *Overextend word meanings*: Overgeneralizing ____________ meanings.
   • *Overregularize rules*: Apply them rigidly, not knowing that some rules have exceptions.

C. **Classic Theories of Language Acquisition: The Nature-Nurture Debate**
   • **Nativism** (*Chomsky*): Theory that human beings have an innate capacity for language acquisition.
   • **Language acquisition device** (*LAD*): In Chomsky’s terminology, an inborn mechanism that programs children’s ____________ to infer linguistic rules that form the
language they ____________.

- *Hand-babbling*: Deaf babies first string together meaningless motions and repeat them over and over.

D. Influences on Language Development

1. **Brain Development**
   - *Brain stem and pons*: Primitive parts of brain that are the earliest to develop.
   - *Motor cortex*: Controls movement of the face and larynx; maturation enables language.

2. **Social Interaction: The Role of Parents and Caregivers**
   a. **Prelinguistic Period**
   - *Prelinguistic period*: Repeating sounds the baby makes; social exchange.
   b. **Vocabulary Development**
   - *Code mixing*: Use of elements of ______ languages, sometimes in the same utterance, by young children in households where both languages are spoken.
   - *Code switching*: Process of changing one’s speech to match the situation, as in people who are _________________.

3. **Child-Directed Speech**
   - *Child-directed speech (CDS)*: Form of speech often used in talking to babies or toddlers; includes slow, simplified speech, a________________, exaggerated vowel sounds, short words and sentences, and much repetition. Also called parentese.

4. **Deaf Children and Language Development**
   - Classic theories and how they explain language acquisition in deaf children
   - Inventing Sign Language

E. **Preparing for Literacy: The Benefits of Reading Aloud**

- **Literacy**: The abilities to read and write.
  1. **Adult reading styles**
     - *Describer style*: Describes what is going on in the pictures and invites the child to also do so.
     - *Comprehender style*: Encourages child to look more deeply at the meaning of a story and make inferences and predictions.
     - *Performance-oriented style*: Reads the story straight through, introducing the main themes beforehand and asking questions afterward.
     - *Dialogic reading*: Shared reading; the child learns to be the storyteller while the adult acts as the active listener.