

Growth and Development

Early Brain Development

- Brain development occurs rapidly during the first year
 - Poor nutrition before/after birth interferes with brain growth
 - Babies are born with millions of brain cells — many more than they will need or use

Early Brain Development (continued)

- Neural connections between cells must be established
 - This process is called learning
 - Occurs rapidly during the first three years
 - Plasticity—periods when the brain is more receptive to certain types of learning

Early Learning and Behavior

- Involves an interplay between genetics and environment
- All experiences contribute to brain growth and organization
- Cells are organized as a result of experiences
 - Repetition strengthens neural pathways
 - Infrequent or lack of use results in pruning

First Three Years

- Research suggests close emotional-cognition connections in the brain
 - Early experiences provide emotional safety
 - Attachment, or bonding, is essential for healthy brain development
- Nurturing, responsive, and consistent relationships promote brain development

Strategies to Promote Early Learning

- Children learn best through play
- Provide opportunities for practice and repetition
- Introduce a variety of sensory experiences
- Create safe environments that encourage exploration
- Encourage and reinforce children's efforts

Strategies to Promote Early Learning

- Provide a language-rich environment
 - Talk frequently, even if baby cannot talk
 - Read often to children
 - Label actions and objects
 - Provide explanations and descriptions
 - Sing songs and lullabies
 - Dance with baby or young child

Development

- Development occurs in six domains or areas
 - Physical
 - Motor
 - Perceptual
 - Cognitive
 - Speech and language
 - Personal and social

Physical Growth and Development

- An interaction of genetics and environment
- Cannot be hurried
- Influences development in other domains
 - Muscle strength, function, and coordination
 - Cognitive abilities, recall, and problem-solving
 - Functioning of sensory organs and ability to use sensory information

Motor Development

- Primarily involuntary or reflexive, in the beginning
- Principles of motor development
 - Cephalocaudal—head to toe
 - Proximodistal—central to extremities
 - Refinement—increasing improvement in ability

Perceptual Development

- Addresses how children use sensory information
 - Multisensory—ability to recognize information from multiple senses
 - Habituation—ability to focus on specific sensory input
 - Sensory integration—ability to act on sensory information

Piaget's Stages of Cognitive Development

Stage	Approximate Age	Anticipated Behaviors
Sensorimotor	Birth–2 years	Transition from reflexive behaviors to actions based on sensory information and basic problem-solving.
Preoperational	2–7 years	Able to think symbolically—uses language and make believe to express thoughts.
Concrete operations	7–11 years	Begins to reason and use logic to make sense of complex information.
Formal operations	12 years and up	Able to think and understand complex and abstract concepts.

Speech and Language Development

- Depends on maturation and understanding of symbolic representation
- Consists of gestures, spoken, and written communication
- Receptive language develops initially
- Expressive language follows

Personal and Social Development

- Nurturing and consistent relationships with caregivers are critical
- Attachment contributes to trust and security
 - Allows infant/child to explore their environment
 - Builds self-esteem and self-confidence
- Includes learning social rules, gender roles, cultural expectations, and establishing autonomy