Physical Development in Early Childhood

- **Body Growth Slows**
  - Shape becomes more streamlined
- **Skeletal Growth Continues**
  - New growth centers
  - Lose baby teeth
- **Asynchronies**
  - Brain, lymph nodes grow fastest
  - General growth curve
  - Rapid growth during infancy, slower gains in early and middle childhood, and rapid growth again during adolescence.

Handedness

- The brains of left-handers tend to be less strongly lateralized than those of right-handers.
- Experience can affect handedness.
- Reflects dominant cerebral hemisphere
  - Right-handed (90%) - left hemisphere
  - Left-handed (10%) - both hemispheres
- May be genetic basis, but affected by experience
  - Position in uterus, practice
- Few left-handers show developmental problems
  - Left hemisphere damage may link left-handedness & some mental problems

Influences on Physical Growth and Health

- **Heredity and Hormones**
  - Growth hormone, thyroid-stimulating hormone
- **Emotional Well-Being**
  - Psychosocial dwarfism
    - Growth disorder that appears between 2-15 years with characteristics of a very short stature, increased GH secretion, immature skeletal age, and serious adjustment problems.
- **Nutrition**
  - Decline in appetite is normal because growth has slowed. Preschoolers’ wariness of new foods may be adaptive.
  - By sticking to familiar foods, they are less likely to swallow dangerous substances when adults are not around to protect them.
  - Repeated exposure to a new food (w/o direct pressure to eat it) increases children’s acceptance.
- **Infectious Disease**
  - Immunization
- **Childhood Injuries**
  - Temperamental characteristics of irritability, inattentiveness, and negative mood are related to childhood injuries.

Motor Skill Development in Early Childhood

- **Gross Motor Skills**
  - Children’s bodies become more streamlined and less top heavy and their center of gravity shifts downward toward the trunk resulting in improved balance and new motor skills with the large muscles of the body.
  - steadiness on their feet frees up the arms and torso to develop new skills—throwing, catching, steering, and swinging.
  - Gait smooth and rhythmic by age 2
  - Upper- and lower-body skills combine into more refined actions by age 5
- **Greater speed and endurance**
- **Fine Motor Skills**
  - Because control of the hands and fingers improves, able to do puzzles, blocks, cut and paste, and stringing beads.
  - Improves self-help: dressing, eating and drawing.
  - Shoe tying, drawing, and writing demonstrate the connection between motor and cognitive development.
Piaget’s Preoperational Stage

- Ages 2 to 7
- Gains in mental representation
  - Make-believe Play
  - Practicing allows the development of schemes.
  - More realistic use of objects to more creative.
- Symbol-Real World Relations
- Limitations in thinking
  - Can’t perform mental operations
  - Egocentrism and animistic thinking
  - Conservation—can’t conserve
  - Lack hierarchical classification

Limitations in Thought

- Operations as defined by Piaget are mental actions that obey logical rules.
- Egocentrism
  - Failure to distinguish the symbolic viewpoints of others from one’s own.
  - Tend to focus on own viewpoint and assume that others perceive, think, and feel the same as they do.
- Animist thinking
  - Belief that inanimate objects have lifelike qualities, such as thoughts, wishes, feelings, and intentions. (i.e. teddy bear)
  - Magical thinking—the sun is angry at the clouds…

Egocentrism: Piaget’s 3 mountains task

Failure to distinguish others’ views from one’s own

Animistic Thinking

Belief that inanimate objects have lifelike qualities
Limits on Conservation—
Can’t Perform Mental Operations

- Conservation
  - Certain physical characteristics of objects remain the same, even when this outward appearance changes.
    - i.e. liquid conservation task.
  - Centration
    - Focus on one aspect of a situation, neglecting other important features.
    - i.e. height vs. width.
  - Irreversibility
    - Inability to mentally go through a series of steps in a problem and then reverse direction, returning to the starting point.

- Hierarchical Classification
  - The organization of objects into classes and subclasses on the basis of similarities and differences.
  - Class inclusion problem.

Piagetian Class Inclusion Prob:
Are there more yellow flowers or more flowers?

Educational Principles
Derived from Piaget’s Theory

1. Discovery learning
   - Encouraged to actively explore.
2. Sensitivity to children’s readiness to learn
   - Developmentally appropriate practice.
   - Not trying to speed up development or impose new skills before the child is ready and interested.
3. Acceptance of individual differences
   - All children go through the same sequence of development, but at different rates.
   - Teachers should plan activities for individual children and small groups rather than just for the whole class.
   - Evaluate children’s progress by comparing them to their own previous development.

Vygotsky’s Sociocultural Theory
and Early Childhood

- Private Speech
  - Children’s self-directed speech.
  - Piaget called this “egocentric speech”
  - Helps guide behavior.
  - Gradually becomes more silent.
- Zone of Proximal Development
  - Tasks too difficult for the child to do alone, but possible with the help of others.
  - Scaffolding (adjusting the support offered during a teaching session to fit the child’s current level of performance) supports children’s learning.
  - Assisted discovery and peer collaboration also help children learn.
Model of Information Processing

- Attention
- Planning
- Memory
  - Memory Strategies
  - Everyday Experiences
- Theory of Mind
  - Metacognition
    - Thinking about thought.
  - Emerging Literacy
    - Ordinality, Counting, and Cardinality

Memory Strategies

- Rehearsal
- Organization
- Elaboration

Development of Theory of Mind

- Awareness of Mental Life
  - Infancy – age 3
- Mastery of False Beliefs
  - Around age 4
Features of a High-Quality Home Environment

- Stimulation
  - Toys, games, reading
- Language
- Academic
- Physical organization
- Pride, affection, warmth
- Social modeling
- Variety
- No physical punishment

Educational Television

- The average 2-6 y.o. watches TV from 1 ½-2 hours/day.
- Low SES children are more frequent viewers.
- Watching Sesame Street increases test scores and observations that measure the program’s learning goals.
- The more TV is watched, the less time is spent reading and interacting with others and the weaker the academic skills.

Language Development in Early Childhood

- Vocabulary
  - Fast-mapping
    - Connecting a word with an underlying concept after only a brief encounter.
- Grammar
  - Overregularization
    - Overextending the rules to words that are exceptions.
      - I.e. “My toy car breaked” or “I have 2 feets.”
- Conversation
- Pragmatics
- Supporting Language Development
  - Expansions
  - Recasts