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**Child Development and Pedagogy**



# INDEX

S No.	Chapter Title	Page No.
1	Concept of development and its relation with learning	1
2	Factors affecting development	10
3	Dimensions of child development	12
4	Principles of Child Development	23
5	Piaget, Pavlov, Kohler and Thorndike __ Construction and critical aspects	25
6	Relation of child development with learning	37
7	Influence of heredity and environment	39
8	personality	44
9	Individual differences	54
10	Understanding inclusive education and diverse learners	60
11	Identification of needs of children with learning difficulties, impairments, etc __	70
12	Identification of talented, creative and special ability learners __	79
13	Problematic child __ identification and diagnostic aspects	85
14	Guidance and counselling for inclusive children	90
15	Childs mental health and behavioural problems	96
16	Concept and methods of adjustment	103
17	Intelligence	109
18	learning	117
19	Learning Curve	125
20	Assessment of learning	128
21	Assessment of the learner	138

# INDEX

S No.	Chapter Title	Page No.
22	Fundamental processes of teaching and learning	143
23	Strategies or strategies of teaching learning	154
24	National Curriculum Framework (NCF) – 2005 _	160
25	Right to Education Act – 2009	163
26	National Education Policy 2020	173



- The qualities possessed by a person in adulthood are the result of this long-term process of development.

**According to Hurlock**, development is not limited only to growth but is a systematic and sequential change that contains a progressive sequence of changes toward the goal of adulthood, resulting in the emergence of new characteristics and abilities in the individual.

**According to Munroe**, development is the phase in the chain of changes through which a child passes from the embryonic stage to adulthood, and this is called development.

**According to James Drever**, development is the state that is continuously expressed as progressive change. This progressive change occurs in any organism from the embryonic stage to adulthood. It generally regulates the developmental system. It is a measure of progress and starts from zero.

### Characteristics of Development:

- Development is a qualitative change that also includes growth.
- Development is a lifelong process.
- In psychology, development is considered a process of gradual changes.
- Development cannot be measured but can be experienced.
- It includes not only physical but also mental changes.
- The pace of development varies and occurs at different rates in different stages.
- It results in the emergence of new characteristics and abilities in a person.
- It is a comprehensive process that includes all the changes occurring over the lifespan.
- Development is influenced by both environment and heredity.
- The direction of development is from general to specific.
- Development includes both quantitative and qualitative processes.

### Difference Between Growth and Development

S.No	Growth	Development
1.	Growth refers to the increase in size, structure, and weight of a human being.	Development refers to personality-related changes such as mental, physical, social, and moral aspects.
2.	Growth is limited and occurs only up to the stage of maturity.	Development has no limit. It continues from birth till death.
3.	Growth is only quantitative.	Development is both quantitative and qualitative.
4.	Growth is sequential and measurable.	Development does not follow a fixed sequence.
5.	Growth is usually visible in physical form.	Development occurs in both visible and invisible forms.
6.	Growth influences development.	Development is hardly affected by growth.
7.	Growth is always positive.	Development can be both positive and negative.
8.	Growth is due only to hereditary factors.	Development is influenced by both heredity and environment.

**Note:** Generally, growth and development are complementary to each other.

## Principles of Development

- **Principle of Continuity**
  - ✓ A child's development is a continuous process from prenatal stage to adulthood.
  - ✓ It is rapid in the first three years of life and slows down later.
- **Principle of Uniform Pattern**
  - ✓ Proposed by *Gesell* and *Hurlock*.
  - ✓ All beings develop according to the pattern of their species.
- **Principle of Individual Differences**
  - ✓ All children develop in a sequence, but the rate of development varies individually.
- **Principle of Different Rates of Development**
  - ✓ The pace of development varies from person to person and continues throughout life.
- **Principle of Sequential Development**
  - ✓ Development follows a fixed order: infancy → childhood → adolescence → youth → adulthood, etc.
- **Principle of Integration**
  - ✓ First, the child's whole body develops, then specific parts, and eventually coordination among all organs occurs.
- **Principle of General to Specific Responses**
  - ✓ A child's development proceeds from general responses to specific responses.
- **Principle of Interaction between Heredity and Environment**
  - ✓ A child's development results from the interaction of heredity and environment.
- **Principle of Interdependence**
  - ✓ Physical, mental, emotional, and other aspects of a child's development depend on each other.

- **Principle of Direction of Development**
  - ✓ Development moves from head to toe (cephalocaudal direction).
- **Centrifugal Development**
  - ✓ Development proceeds from the center of the body outward.
- **Principle of Circular (Cyclical) Development**
  - ✓ Development progresses in a circular manner, also known as the cyclical development principle.

## Child Development

- In child psychology, the child is studied from birth to adolescence.
- In child development, the child is studied from the prenatal stage to adulthood. Therefore, child psychology came to be known as child development.

## Brief History of Child Development

Child psychology came to be known as child development because it involved the study of all aspects, not just a single one.

- The study of child development was first initiated in **1629 A.D.** by **Comenius**, who founded the *School of Infancy*.
- **Pestalozzi** conducted scientific studies on child psychology and experimented on his three-and-a-half-year-old son, writing a *Baby Biography*.
- **Preyer** authored the book *Mind of Child* based on his study of children.
- In the **19th century**, **Stanley Hall** established the *Child Study Society* and *Child Welfare Organization* in America.
- Stanley Hall is considered the **father of child psychology**.
- **Taine** wrote *Infant Child Development* in **1869 A.D.**
- In **India**, the study of child development began in **1930 A.D.** at **Calcutta University**, initiated by **Tarabai Modak**.

**Crow & Crow:** "Child psychology is a scientific study in which the child is studied from the prenatal stage to adolescence."

**Berk:** "Child development is the branch of psychology that explains all the changes from the prenatal stage to the stage of maturity."

**James Drever:** "It involves the study of a developing human from birth to maturity."

**Eysenck:** "Child psychology relates to the development of psychological processes in children. It includes the study of a child's developmental responses from the prenatal stage, birth, infancy, childhood, adolescence, to maturity."

### Need for Studying Child Development

- **To understand children's mental makeup:** It is essential to study child development to understand their mental state, interests, abilities, and problems.
- **To understand the process of development:** For a comprehensive understanding of the physical, mental, social, and emotional changes from birth to adulthood.
- **Helpful in child guidance and counseling:** To provide proper direction and counseling, it is important to know the child's developmental stage and level.
- **Helpful in predicting children's future behavior:** The present behavior and development of the child can help assess their future personality and behavior.
- **Helpful in modifying and controlling child behavior:** Knowledge of development is necessary to guide the child's behavior in a positive and disciplined direction.

### Fields of Child Development:

- **Study of different developmental stages:** Analysis of physical, mental, social, and emotional development in stages like infancy, childhood, and adolescence.
- **Study of various aspects of development:** A comprehensive understanding of physical, mental, social, moral, emotional, and language development.
- **Study of children's abnormalities:** Analysis of physical, mental, social, and behavioral issues such as intellectual disability, blindness, hearing impairment, behavioral disorders, etc.
- **Study of mental health science:** Covers mental balance, stress management, adjustment capacity, and positive thinking.
- **Study of psychological processes in children:** Analysis of processes such as perception, memory, imagination, emotion, motivation, decision-making, and thinking.
- **Study of children's interests:** Understanding children's preferences, inclinations, and likings for capacity development.
- **Study of individual differences:** Evaluation of differences in intelligence, aptitude, temperament, learning pace, etc.
- **Evaluation of children's personality:** Observation and testing of various dimensions of personality such as self-confidence, leadership, adjustment, and behavior.

### Importance of Studying Child Development:

- **Understanding developmental activities:** Helps to understand how children develop physically, mentally, socially, linguistically, and emotionally. It aids teachers, parents, and educators in knowing what kind of help and activities children need at each stage.

- **Knowledge of child nutrition methods:** Along with physical growth, balanced nutrition is essential for health. Studying child development provides information on age-appropriate and need-based nutrition methods, helping prevent weaknesses and diseases.
- **Understanding individual differences:** Every child is unique in interests, abilities, learning pace, and thinking style. Studying child development helps identify and accept these differences to provide personalized education and guidance.
- **Understanding developmental stages:** It clarifies how children develop in different phases—like infancy, childhood, adolescence—helping parents and teachers provide suitable care.
- **Useful in training and teaching children:** Helps teachers decide the appropriate subject matter, teaching methods, and activities for different ages, making education more effective, scientific, and child-centric.
- **Helpful in building children's personality:** Balanced and positive personality development begins in childhood. Studying child development helps understand the factors affecting personality and how proper environment, training, discipline, and motivation can ensure holistic growth.

### Stages of Development

- Infancy - Birth to 5 years
- Childhood - 6 to 12 years
- Adolescence - 13 to 18 years
- Adulthood- 19 years and above

**James Drever** "The developing human is studied from birth to maturity."

### **According to Kolsanik**

- **Infancy** - from birth to 3/4 weeks
- **Late infancy** - up to 2 years
- **Early childhood** - 2 to 6 years
- **Middle childhood** - 6 to 9 years
- **Late childhood** - 9 to 12 years
- **Humans** - 12 to 21 years

### **According to Hurlock**

- **Prenatal Period** – Conception to birth
- **Neonatal Period** – Birth to 14 days
- **Babyhood** – 14 days to 2 years
- **Early Childhood** – 3 to 6 years
- **Late Childhood** – 7 to 12 years
- **Pubescence** – 12 to 14 years
- **Early Adolescence** – 13/14 to 17 years
- **Late Adolescence** – 18 to 21 years
- **Adulthood** – 21 to 40 years
- **Middle Age** – 41 to 60 years
- **Old Age** – After 60 years

### **According to Ross**

- **Infancy** – 1 to 3 years
- **Early Childhood** – 3 to 6 years
- **Late Childhood** – 6 to 12 years
- **Adolescence** – 12 to 18 years

### **General Description of Different Stages:**

- **Prenatal Stage:** This stage extends from conception to birth. For the convenience of studying developmental processes, this stage is divided into three sub-stages:
  - ✓ **Germinal Stage:** This stage lasts from conception to two weeks.
  - ✓ **Embryonic Stage:** This process continues from two weeks to eight weeks. The living being in this stage is called an embryo. During this stage, the major organs of the body are formed.
  - ✓ **Fetal Stage:** This stage extends from eight weeks to just before birth.

- **Infancy:** This is the stage from birth to 14 days. During this period, the child is referred to as a newborn.
- **Babyhood:** This stage extends from 2 weeks to 2 years. During this stage, the child is completely helpless and dependent on others for their needs. The pace of development during this stage is rapid.
- **Childhood:** This stage extends from the beginning of the third year to thirteen–fourteen years of age. For convenience in study, this stage is divided into two parts:
  - ✓ **Early Childhood**
  - ✓ **Late Childhood**
  - ✓ At this stage, new tendencies, curiosity, creativity, imitation, etc., begin to emerge in the child.
  - ✓ The child enters the social environment alone for the first time and begins attending school.
- **Pubescence or Pre-Adolescence:** This is the intermediate phase between late childhood and adolescence, which includes two years from each stage. Therefore, this stage is called a mixed stage. During this stage, sex organs develop. The rate of physical and mental development is faster than in childhood.
- **Adolescence:** This is the final stage of childhood. It lasts from 14–15 years to 21 years of age.
  - ✓ **Early Adolescence:** Up to 17 years of age
  - ✓ **Late Adolescence:** From 17 to 21 years of age
  - ✓ **Note:** Some scholars refer to this stage as the **Golden Age**. In this stage, attraction toward the opposite sex increases, and *sociability* and *sexuality* are two major characteristics.

- **Adulthood:** This stage extends from 21 to 40 years of age. During this time, the individual becomes capable of fulfilling duties and responsibilities. In various situations of public life, they are able to adjust healthily and achieve accomplishments.
- **Middle Age, Late Middle Age:** This stage extends from 41 to 64 years of age. During this stage, individuals undergo physical and mental changes. During this period, the person desires a happy and respectful life.
- **Old Age:** This stage is known as the stage after 65 years of age. It is considered the final stage of life. In this stage, memory becomes weak and physical and mental capabilities begin to decline.

### **Infancy (Shishu Avastha):**

**Age Range:** 0 to 5 years / From birth to 5 years

**Thorndike:** “A child between the ages of 3 to 6 generally lives in a semi-dream state.”

**Freud:** “Whatever a person is to become is formed within the first four to five years.”

**Strang:** “In the first two years of life, the child lays the foundation of their future life.”

**Goodenough:** “Half of a person's total development takes place by the age of three.”

**Valentine:** “Infancy is the ideal age for learning.”

**Gesell:** “Development in the first six years is twice as much as in the next twelve years.”

**Bridges:** “By the age of two, all emotions are developed in the child.”

**Crow & Crow:** “The 20th century is called the century of the child.”

**Rousseau:** “A child’s hands, feet, and eyes are their first teachers.”

**Dryden:** “First we form our habits, then our habits form us.”

## Characteristics of Infancy:

- Rapid physical development
- Rapid mental development
- Vivid imagination
- Self-love / narcissism
- Development of moral qualities
- Instinct-based behavior
- Learning through imitation
- Curiosity-driven behavior
- Repetitive tendencies
- Introverted personality
- Expression of emotions
- Display of sexual energy
- High interest in toys
- Most lovable stage
- Age of preschool readiness
- Development of language skills

## Nicknames for Infancy:

- **Ideal learning period** – *Valentine*
- Most important phase of life
- Foundation of future life
- Stage of learning through imitation
- Age of toys
- Pre-primary school age
- Stage of dependency
- Stage of illogical thinking
- Dangerous age
- “Bucky” age
- Age of kingship
- Golden age of learning
- Naming explosion stage
- Age of wandering in the world of imagination

## Major Reflex States in Newborn Infants

Reflex	Description	Developmental Sequence
<b>Rooting Reflex</b>	Turning the head and opening the mouth when the cheek is touched.	Disappears between 3 to 6 months.
<b>Moro Reflex</b>	In response to a sudden loud noise, the baby jerks its back, spreads out arms and legs, and then brings them back to the chest as if grasping something.	Disappears between 3 to 7 months (this indicates a reaction to noise).
<b>Grasp Reflex</b>	When the baby’s palm is touched or an object is placed in it, the fingers grip tightly around it.	Disappears between 3 to 4 months (after which it becomes voluntary).
<b>Babinski Reflex</b>	When the sole of the baby’s foot is stroked, the toes fan upward and then curl forward.	Disappears between 8 to 12 months.

## Childhood (6 to 12 years)

**Cole & Bruce:** “Childhood is a unique period of life.”

**Ross:** “Childhood is a period of false or pseudo-maturity.”

**Strang:** “There is hardly any game left that a child hasn’t played by the age of 10.”

**Kilpatrick:** “Childhood is the age of

competitive socialization.”

**Burt:** “In childhood, the tendency for wandering and adventurous activities increases.”

**Blair & Jones:** “From an educational perspective, no phase in life is more important than childhood.”

**Atkinson:** “Childhood is the most delightful period of life.”

## Characteristics of Childhood:

- Stability in physical development
- Stability in mental development
- Connection with the real world
- Development of group feeling
- Development of moral traits
- Tendency to collect things
- Change in interests
- Extroverted personality
- Stage of intellectual activity
- Increased development of new skills and abilities
- Gross motor activity phase
- Sense of give-and-take
- Feelings of inferiority
- Tendency of favoritism
- Lack of diligence
- Behaviors like stealing, lying, fighting, etc.
- Strong curiosity
- Tendency toward aimless wandering
- Low sexual tendencies

### Nicknames/Tags for Childhood:

- Stage of **concrete thinking**
- Stage of **primary schooling**
- **Most important phase** educationally
- **Group or gang age**
- **Collection/gathering phase**
- Period of **false maturity**
- **Pseudo-maturity stage**
- Age of **aspiration to become a leader**
- Period of **ideation**
- Tendency toward **accumulation/hoarding**
- **Dirty age**

## Adolescence

- The Hindi word "किशोरावस्था" is derived from the English term "**Adolescence**", which means "**maturity**". This word originates from Latin.

- In **1904**, **Stanley Hall** wrote the book "*Adolescence*". He is considered the **father of adolescence psychology**.

- ✓ **Theory of Sudden Development** (*Stanley Hall*): According to this theory, changes in boys and girls during adolescence happen suddenly.
- ✓ **Theory of Gradual Development** (*Thorndike*): According to this theory, changes during adolescence occur **gradually**, not suddenly.

- **Valentine**: "Adolescence is a delicate time for the development of criminal tendencies."
- **Ross/Joss**:
  - ✓ "Adolescence is a repetition of infancy."
  - ✓ "Adolescents develop and nurture ideals of social service."
- **Kilpatrick**: "Adolescence is the most difficult phase of life."
- **Stanley Hall**: "Adolescence is a period of conflict, stress, and storm."
- **Skinner**: "Adolescents have no experience of making decisions."
- **Crow & Crow**: "The adolescent represents the power of the present and the hope of the future."
- **Erikson**: "In adolescence, individuals seek clarification of their self-identity."

## Characteristics of Adolescence:

- Stage of group loyalty
- Stage of social acceptance
- The golden age
- Period of turmoil and confusion
- Stage of logical thinking
- Stage of self-respect and self-acceptance
- Stage of personal and close friendships
- Stage of intense pressure and stress
- Period of emotional fluctuations
- Stage of rapid physical and mental development (*Bigg & Hunt*)

- Belief in God and religion
- Inclination toward social service
- Development of criminal tendencies
- Lack of stability and adjustment
- Behavioral inconsistencies
- All-round development
- Hero worship
- Attraction toward the opposite sex
- Frequent daydreaming
- Competitiveness and leadership
- Engagement in immoral acts and suicide

**Nicknames of Adolescence:**

- Spring season of life
- Golden period of life
- Teen Age
- Age of problem-solving
- Transitional phase
- Most difficult phase of life (Kilpatrick)
- Angel-like stage
- Tendency for hero worship
- Patriotic feeling
- Stage of pressure, storm, and conflict
- Peak of sexual drive
- Lack of adjustment



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# Factors Affecting Development



A child's development is a continuous process that operates through the mutual influence of heredity and environment. However, there are certain specific factors that either accelerate or hinder this process. These factors influence the entire growth journey of the child from the prenatal stage onward. The details of these factors are as follows:

## 1. Nutrition

Nutrition plays a fundamental role in any child's development. From the prenatal stage to adolescence, proper nutrition is essential for the child's physical and mental development. A balanced diet must contain adequate amounts of protein, fat, carbohydrates, vitamins, and minerals. If nutrition is insufficient, the child's growth slows down, affecting their learning, play, and level of social adjustment.

## 2. Intelligence

A child's intellectual abilities guide their overall development. Children with high intelligence not only learn quickly but also adjust faster to new situations. Terman clarified that highly intelligent children begin walking by the 13th month and speaking by the 11th month, while less intelligent children exhibit these abilities at the 30th and 15th month, respectively.

## 3. Gender Differences

Boys and girls go through different rates of development. At birth, boys are usually slightly taller, but during adolescence, girls grow faster and attain maturity earlier than boys. This difference affects not only physical but also mental development.

## 4. Endocrine Glands

Glands in the human body like the thyroid, pituitary, and gonads secrete hormones that regulate various body functions. Thyroxine helps in physical and mental development. Overactivity or underactivity of these glands may cause abnormal development. For example, overactivity of the thymus keeps childhood traits for a longer time.

## 5. Racial Differences

Some scientists believe that people of different races differ not only in physical structure and color but also in mental abilities. However, scholars like Hurlock do not accept this view.

## 6. Illness and Injury

Diseases occurring during the prenatal stage or injuries sustained after birth can hinder a child's development. Along with physical ailments, psychological trauma also affects a child's sociability, self-confidence, and comprehension ability.

## 7. Family Environment

The family is the child's first social institution. Parents' mutual relationships, parenting style, behavior toward children, and family size all play a role in shaping a child's personality. In a family where communication, cooperation, and affection exist, a child's holistic development happens naturally.

## **Family Factors Affecting Development:**

### **1. Parental Attitudes**

The behavior of parents shapes the child's mental structure. Overprotection makes children dependent, while neglect leads to inferiority and aggression. Strict parenting often results in shyness, inferiority complex, and indecisiveness in children.

### **2. Family Size**

A medium-sized family is considered ideal for a child's holistic development. Smaller families offer better resource availability, whereas larger families may increase competition and neglect.

### **3. Broken Families**

When one parent is absent due to death or divorce, the child may suffer from insecurity and emotional instability. Financial pressure and lack of emotional support may hinder development.

### **4. Parents' Occupation**

The father's social status and mother's work schedule affect the child's self-awareness, social behavior, and expression. If the mother is working, younger children may experience loneliness.

### **5. Socioeconomic Status**

A family's financial status directly impacts a child's education, health, nutrition, and mental stability. Children from low-income families often experience an inferiority complex.

### **6. Parental Partiality**

When one child receives more affection and the other is neglected, the neglected child may develop jealousy, anger, and imbalance.

### **7. Birth Order**

The first-born usually receives more opportunities and resources, resulting in greater confidence and responsibility. Later-born children may develop feelings of neglect.

## **School-Related Factors Affecting Development:**

### **1. School Environment**

A school is not just an academic institution but a center for personality development. A child's interests, value system, and social behavior are shaped in school.

### **2. Nursery and Primary Education**

Nursery education helps develop confidence, social adjustment, and creativity in early stages. Adjustment in primary school is easier for those who have experienced a good family environment.

### **3. Classroom Environment**

In a cooperative and democratic classroom setting, children develop friendship, leadership, and cooperation. In rigid or chaotic classes, fear, rebellion, and passivity are observed.

### **4. Teacher-Student Relationship**

The teacher's behavior has a profound effect on children. Affectionate teachers are inspiring, while harsh behavior can induce fear, rebellion, or inferiority.

### **5. School Discipline**

Democratic discipline enhances self-control, confidence, and a sense of responsibility. Authoritarian discipline may make children timid, suspicious, and uncooperative.

### **6. Role of School in Moral and Social Development**

In school, children learn social values practically—such as cooperation, responsibility, self-control, leadership, justice, and service. These values make their social journey ahead smoother.

# Dimensions of Child Development



## Physical Development:

Physical development refers to the gradual and balanced development of all the internal and external organs of the body. It includes height, weight, body proportions, bones, muscles, internal organs, physical health, and functionality. This development begins before birth and continues through various stages until the end of adolescence. Physical development also involves the analysis of the factors that affect it.

## Laws of Physical Development:

### **Cephalocaudal Law:**

This law states that the direction of physical development is from head to toe. Hence, first the brain, then the trunk, then the arms, and finally the legs develop.

### **Law of Cyclic Development:**

Human development is rhythmic and not uniform. It is divided into the following four cycles:

Cycle	Age Range	Characteristic
First Cycle	Birth to 2 years	Fastest development
Second Cycle	2 to 11 years	Slower development
Third Cycle	11 to 15 years	Fast development resumes
Fourth Cycle	15 to 18 years	Slower development again

## **Characteristics of Physical Development:**

- **Development of Physical Structure:** Includes growth of body shape, height, weight, bones, teeth, etc.

- **Development of Physical Functions:** Includes proper development of nervous system, digestive system, respiratory system, circulatory system, endocrine glands, etc.

## Physical Development in Stages of Growth:

**Infancy (Birth to 6 years):** In infancy, physical development occurs at a very rapid pace. During this stage, the child's body grows intensively in terms of size, weight, height, bones, muscles, and internal organs.

- **Weight:** At birth, the average weight of boys is around 7.15 pounds and girls 7.13 pounds. The infant's weight doubles within six months and triples by the end of the first year, indicating extremely rapid physical growth.
- **Height:** At birth, the average height of an infant is approximately 50 cm, which increases to 67–70 cm by one year of age. By two years, it reaches about 77–82 cm, and by six years, it becomes approximately 100–110 cm.
- **Head and Brain:** At birth, the head is one-fourth of the total body length. During the first two years, head development is very rapid, and brain weight is higher in proportion to total body weight.
- **Bones:** A newborn has about 300 bones which are soft and flexible. As the infant grows, these bones harden due to minerals like calcium and phosphorus.

- **Muscles:** At this stage, muscles constitute about 23% of the total body weight. In the first two years, muscular development is rapid. By this age, arms grow to double their original length and legs to one and a half times.
- **Other Organs:** From the sixth month, milk teeth begin to appear. By the end of the first year, the child has eight teeth, and by around four years of age, all milk teeth emerge. In addition, the heart, lungs, nervous system, and digestive system also develop rapidly.

**Childhood:** During this period, physical development occurs at a **slower but steady pace**.

- **Weight:** In this stage, children's weight increases regularly. Until around 9–10 years of age, boys generally weigh more than girls, but **after this age**, girls tend to become heavier than boys.
- **Height:** During childhood, height increases at a rate of approximately **2–3 inches per year**. This growth is **slower** compared to infancy.
- **Bones:** In the **first 4–5 years** of this stage, the number of bones increases, and by the age of **10–12 years**, bones become hard and strong, resulting in increased body stability.
- **Teeth:** At the beginning of childhood, **milk teeth** start falling out, and **permanent teeth** begin to erupt in their place. By **12–13 years** of age, most of the permanent teeth are in place.
- **Brain:** During this stage, the brain becomes almost **fully developed**. Children learn to gain control over their physical activities.
- **Body Organs:** Most organs attain **functional control**, improving the child's **mobility, coordination, and balance**.

**Adolescence (13 to 21 years):** Adolescence is the stage of **physical maturity**. The body grows rapidly, and the child transitions into adulthood.

- **Increase in Height:** In early adolescence, **girls grow taller** than boys, but **after age 14, boys surpass** girls in height. This growth is regulated by **pituitary gland secretions**.
- **Increase in Weight:** There is a sharp increase in weight during this stage. From **11 to 14 years, girls are heavier**, but after **15 years, boys become heavier** due to the development of bones and muscles.
- **Body Proportions:** During adolescence, all **body parts develop in proportion**, giving the body an **adult-like appearance**.
- **Skin and Hair:** During this period, **girls' skin** becomes clearer, while **boys** develop facial hair (beard and mustache), which reduces facial softness. **Voice changes** also occur—**boys' voices deepen**, while **girls' voices remain soft**.
- **Tooth Development:** By the age of **13**, about **28 permanent teeth** erupt. The remaining teeth appear during adolescence.
- **Muscle Development:** By the age of **15**, muscles constitute about **33% of the total body weight**, and afterward, grow annually by about **11%**, which gives the body a **well-toned appearance**.
- **Development of Organs:** During this period, the **heart, lungs, sensory organs, bones**, and other organs become **fully developed**. At birth, there are **270 bones**, which increase to **350 during adolescence**, and then merge back to **206 in adulthood** due to fusion.

- **Sexual Changes:**
  - ✓ **Primary Changes:** Maturation of **reproductive organs** such as testes, ovaries, uterus, etc.
  - ✓ **Secondary Changes:** Examples include the **growth of beard and mustache, deepening of voice, and sperm production** in boys; and **breast development and onset of menstruation** in girls.

### **Mental Development:**

The central focus of mental development is **intelligence**. A child's mental alertness, thinking, decision-making ability, imagination, memory, reasoning, and expression depend on it. A child with average intelligence adjusts more easily to the environment compared to a mentally challenged child.

According to **Hurlock** – “Mentally a mature individual is one whose intelligence has reached its maximum growth.”

According to **James Drever (1984)** – “The process of progressive manifestation and organization of mental abilities and mental functions from birth to maturity is called mental development.”

### **Characteristics of Mental Development:**

- Mental development increases progressively with age.
- It leads to expansion of intelligence and interests in the child.
- New ideas, imagination, and thinking abilities are developed.
- The child gains awareness of time and learns to understand it correctly.
- The child expresses instincts through gestures and actions.
- The ability to plan is developed.

- Intellectual development is a sequential process.
- The child starts learning from past experiences.
- Decision-making ability is developed.

### **Mental Development in Infancy (Birth to 2 years):**

At birth, the infant is in a helpless state. He/she only performs reflex actions like crying, breathing, and shivering in cold. The child begins to startle at loud noises and pay attention to bright light.

- **Birth to Two Weeks:** The infant performs reflex actions like crying, breathing, shivering in cold, etc., based on physical states. Sometimes startles at loud sounds. In the second week, I start noticing bright lights.
- **From Third Week to Second Year:**
  - ✓ The child begins to recognize the mother and becomes calm in her arms.
  - ✓ In the first month, experiences comfort and discomfort, cries when left alone.
  - ✓ In the second month, pays attention to objects and smiles on seeing the mother.
  - ✓ In the third month, grabs objects and responds to stimuli.
  - ✓ In the fourth month, distinguishing between anger and affection, tries to pull back removed objects.
  - ✓ In the fifth month, recognizes the mother and shows restlessness when separated.
  - ✓ In the sixth month, imitation ability develops, gets angry when milk is not given, smiles when it is given.
  - ✓ In the seventh month, develops preferences and dislikes, gains awareness of taste, temperature, light, etc.

- ✓ In the eighth month, asserts ownership over toys, understands signals.
- ✓ In the ninth month, plays with children of the same age.
- ✓ In the tenth month, tendencies of cooperation and opposition develop.
- ✓ In the eleventh and twelfth months, using monosyllabic words, observation ability increases.
- **First and Second Year:**
  - ✓ The child begins to express thoughts through language.
  - ✓ Speaks in one- or two-word sentences.
  - ✓ Likes to be in groups, imitates social actions.
  - ✓ Vocabulary, memory, imagination, and thinking abilities develop.

### Mental Development in Childhood (3–12 years):

- **Third Year:**
  - ✓ Curiosity increases, and the child asks questions.
  - ✓ Recognizes fruits and body parts through signals.
  - ✓ Recognizes and uses daily objects.
- **Fourth Year:**
  - ✓ Learn counting, gain understanding of money.
  - ✓ Understands shapes, begins to write.
- **Fifth Year:**
  - ✓ Gains comparative knowledge, knows name, address, family details.
  - ✓ Forms complex sentences, develops mathematical understanding.
- **Sixth Year:**
  - ✓ Language and syntactic knowledge improve.
  - ✓ Recognizing pictures, attention and imitation skills increase.
- **Seventh Year:**
  - ✓ Clarity in reasoning and thinking emerges.
  - ✓ Maturity in knowledge of color, taste, smell, etc.

- **Eighth Year:**
  - ✓ Language becomes fluent, memory sharpens.
  - ✓ Tendency to live in groups and social participation increases.
- **Ninth Year:**
  - ✓ Child gains accurate knowledge of time, date, value, distance, etc.
  - ✓ Interest in study and school activities increases.
- **Tenth Year:**
  - ✓ Sentence formation, observation, reasoning, and memory are highly developed.
  - ✓ Forms 20–25 word sentences, remembers stories and poems.
- **Eleventh Year:**
  - ✓ Understands similarities and differences between objects.
  - ✓ Mathematical and logical thinking intensify.
- **Twelfth Year:**
  - ✓ Learn to provide experience-based solutions.
  - ✓ Curiosity, vocabulary, thinking, attention, and reasoning are highly developed.

### Mental Development in Adolescence (13–21 years):

- During this period, mental development is at its peak. According to **Woodworth**, “*Mental development reaches its highest level between the ages of 15 and 20.*”
- **Development of Interests:** Adolescents develop **multi-dimensional interests**. Girls take interest in dance, music, and art; boys in sports, competition, and technical activities.
- **Development of Learning Capacity:** Based on interests, adolescents start engaging in **academic and skill-based learning**.

- **Development of Mental Abilities:** Thinking, reasoning, decision-making, and problem-solving abilities develop.
- **Highest Development of Intelligence:** Intelligence reaches its **peak** in this stage, leading to maturity in the following areas:
  - ✓ Reasoning power
  - ✓ Memory power
  - ✓ Imaginative ability
  - ✓ Thinking
  - ✓ Language development
  - ✓ Concentration ability

### Emotional Development:

Emotional development is extremely important for the overall development of human life and for the formation of a balanced personality. A person's mental, social, and behavioral level depends on their emotional balance. When an individual learns to express emotions like fear, anger, love, hatred, compassion, and jealousy at the right time, to the right person, and through the right means, only then are they considered emotionally mature.

The importance of emotional development is evident from the fact that if a person's emotions are not balanced, their personality may move toward disintegration. Emotions can be both **creative** and **destructive**—while **love** provides creative energy, **jealousy**, **hatred**, and **depression** lead a person toward destruction.

According to **Woodworth**, emotion is the state of activation of a person's mental and physical energy.

According to **McDougall**, emotion is an experience associated with some basic instinct.

### **Characteristics of Emotional Development:**

- Emotional development occurs gradually across different stages—**infancy, childhood, and adolescence**.
- As the child grows older, their emotions become more **complex** and **mature**.
- Proper experience and expression of emotions lead to **emotional maturity**.
- Emotional development is based on training—learning to **control emotions**, express them properly, and **transform one emotion into another**.
- It influences the child's **behavior, social interaction, and self-control**.

### Emotional Development in Infancy (0–2 years):

In infancy, the pace of emotional development is **slow**, and initially, emotions appear in a vague form. During this stage, emotions are mostly expressed as **reflex actions**.

- The child's emotional reactions are **intense but momentary**—sometimes crying, sometimes laughing, and sometimes a mix of both.
- Major emotions—**fear, anger, and love**—begin to develop at this stage.
- For example, when milk is not given, the child shows anger; when the mother arrives, the child smiles—this is the earliest emotional response.
- As the child grows, emotional responses become more **intense and clear**.
- The **environment** also begins to influence emotional development in the later part of infancy.

### Emotional Development in Childhood (3–12 years):

In this stage, emotions become more **stable** and **organized**. The child begins to learn to **control and express emotions** according to **social norms and expectations**.

- The child starts to **identify and express emotions** like love, jealousy, hatred, and competition.
- The child tries to adjust behavior according to parental and teacher expectations.
- Sometimes, the child lies to avoid neglect—this too is a part of emotional development.
- Eventually, the child learns to **control emotions**, which leads to better **social adjustment**.
- Emotions are no longer just immediate reactions; they become **mature responses based on experiences and situations**.

### Emotional Development in Adolescence (13–21 years):

Adolescence is considered a stage of **emotional instability**. Hormonal changes are intense during this period, leading to **emotional and mental fluctuations**.

- Emotions like **love, compassion, anger, and empathy** appear more intensely and permanently in adolescents.
- They are **unable to fully control** these emotions, which results in **emotional instability**.
- **Physical strength** also affects emotions—physically strong adolescents are more stable, while weaker ones are more disturbed.
- Adolescents are highly sensitive about their **appearance, body, academics, respect, social status, and relationships**.
- They feel that they are neither fully a child nor fully an adult, causing a **crisis in emotional identity**.
- In this confused state, if proper **guidance** is not provided, they may even turn to **extreme measures** like **running away from home or suicide**.

### Key Factors Affecting Emotional Behavior in Adolescence:

- Intensity of sexual drive
- Social expectations
- Need for self-esteem
- Fear of rejection or neglect
- Strong tendency for imitation and competition

### Language Development:

Language is a powerful medium through which a person communicates thoughts, emotions, needs, and experiences to others. It distinguishes humans from other creatures, as language is the foundation of intelligence, culture, and socialization.

Humans are social beings, and to exchange ideas, they constantly need language. Language is not only a tool for communication but also plays a vital role in **mental and social development**. Through language development, the child finds their place in society, expresses thoughts clearly, and participates in activities such as learning, reading, and writing.

#### **1. Language Development in Infancy (0–2 years):**

- The initial form of language is considered to begin with the **first cry** of the infant.
- During the **first four months**, the infant mostly produces vowel sounds.
- By around **10 months**, the child begins repeating simple syllables, such as “ma-ma”, “pa-pa”.
- By **1.5 years**, the child’s language is unclear and usually understood only by the parents.
- Between **1 to 1.5 years**, the child starts using **single-word sentences**, such as “boo-boo” for milk.