

Psychology of Learner & Learning

JV'n Prof. (Dr.) Manju Sharma

JAYOTI VIDYAPEETH WOMEN'S UNIVERSITY, JAIPUR

UGC Approved Under 2(f) & 12(b) | NAAC Accredited | Recognized by Statutory Councils

Printed by :
JAYOTI PUBLICATION DESK

Published by :
Women University Press
Jayoti Vidyapeeth Women's University, Jaipur

Faculty of Education & Methodology

Title: Psychology of Learner and learning

Author NameDr. Manju Sharma

Published By: Women University Press

Publisher's Address: Jayoti Vidyapeeth Women's University, Jaipur
Vedaant Gyan Valley,
Village-Jharna, Mahala Jobner Link Road, NH-8
Jaipur Ajmer Express Way,
Jaipur-303122, Rajasthan (INDIA)

Printer's Detail: Jayoti Publication Desk

Edition Detail: I

ISBN: 978-93-90892-84-6

Copyright ©- Jayoti Vidyapeeth Women's University, Jaipur

Index

S.No.	Content
1	Psychology Meaning Nature And Scope
2	Nature Of The Learner And Learning
3	Concept Of Growth And Development
4	Principles Of Growth And Development
5	Factors Affecting Rate and Pattern of Growth and Development
6	Maturation – Definition And Types
7	Theories Of Child Development
8	Characteristics Of Child Development
9	Types Of Child Development
10	Adolesent Meaning And Definiation

Chapter -1

Psychology meaning nature and scope

The word 'psychology' comes from the Greek words –psycho +logos Psycho-soul, logos-Science, thus the meaning of psychology is the science of soul. We know that psychology as an independent discipline acquired separate status very recently.

Nature of psychology

1- the nature of soul-the arm chair philosophers were interested in the nature of soul. Democritus the First philosopher argued, argued that every thing

Psychology is the scientific study and practical application of observable behavior and mental processes of organisms. **Psychology** differs from other social sciences such as: Sociology, History, or Economics, because **psychology** specifically deals with the study of an individual. **Psychology** is the study of the mind and behavior. The discipline embraces all aspects of the human experience — from the functions of the brain to the actions of nations, from child development to care for the aged. I want to understand the psychology of people who just pick up a gun and shoot.

What is the psychology of a customer?

- Are you going to study my psychology and tell me who I am?
- You have to understand the psychology of farmers to understand what troubles them.
- Architects have to understand the psychological needs of their clients so their house becomes a home.
- Psychological experiments show that people do not understand what they really desire.
- I am going to study psychology and help people.
- Is psychology a science? Is it the same as philosophy?
- Economics depends on the psychology of people.
- What is the psychology of an abused kid?
- Your psychology is very bad. Your psychology is very good.

These are just sentences. It may not be hard to understand them at first but let's put the word under a microscope and study it.

Some **more examples** of what people think psychology means -----

- Personality (personality wins)
- Emotions

- Thinking
- Something inside the mind
- Relationship of strong/impactful events in life and one's thoughts, behavior, and emotions

What do they think people who learn psychology do?

- Predict behavior
- Reveal the truth
- Understand the personality
- Mind reading (this never happens)
- Analyze people
- Sex, Relationships, Life advice

What do people *assume* (incorrectly) about psychologists?

- They can read minds
- They can analyze you better than anyone else on the planet
- They can talk and cure your problems
- They have no psychological issues and never have conflicts (this one is my favorite)

What do psychologists actually do?

- Help people understand their mental health and work with them to cope & adjust in life.
- Study how many aspects of life relate to each other.
- Conduct studies to understand patterns of behavior & thoughts.
- Implement studies to provide therapy, counseling, and consultation
- Work alongside different professionals to improve aspects of business, products, services, technology, communication, etc.

The nature and scope of psychology

Psychology definition:

- Psychology is the study of the mind and behavior. The discipline embraces all aspects of the human experience — from the functions of the brain to the actions of nations, from child development to care for the aged. In every conceivable setting from scientific research centers to mental health care services, “the understanding of behavior” is the enterprise of psychologists.

Merriam Webster

- The science of mind and behavior
- The mental or behavioral characteristics of an individual or group
- The study of mind and behavior in relation to a particular field of knowledge or activity

Some more variations of the meaning of psychology:

Psychology is the scientific investigation of how people behave, think, and feel. It includes underlying mechanisms that involve the environment, biology, and the mind.

Psychological investigations try to describe, predict, analyze, and create actionable outcomes that help people. Actionable outcomes include therapy, learning design, altering protocols at a workplace, etc.

Today, psychology is closely related to fields such as cognitive science, neuroscience, economics, law, public health,

Specializations and branches of psychology

The following broad branches of psychology will elucidate the overall nature and scope of psychology:

- 1-- ***Clinical psychology*** – the study, assessment, prevention, coping, and treatment of mental health issues and disorders such as depression & schizophrenia (**example**)
- 2- ***Organizational & industrial psychology*** – the study of how professional environments function with respect to employment, assessment & recruiting, workplace wellbeing, conflict resolution, team building, etc. (**example**)
- 3- ***Social psychology*** – the study of how people interact in social contexts and what variable affect social behavior, identity, and cognition (**example**)
- 4- ***Cognitive psychology*** – the study of mental processes that enable thinking, feeling, language, art, etc. (**example**)
- 5- ***Behavioral psychology*** – the study of human and animal behavior (**example**)
- 6- ***Developmental psychology*** – the study of specific factors relevant to a certain age group or developmental stage across a lifespan and trends across the lifespan
- 7- ***Evolutionary psychology*** – the study of human and animal behavior in an evolutionary context and the study of adaptability and deeply rooted tendencies (**example**)
- 8- ***Forensic psychology*** – the study of how criminals behave and think

- 9- **Neuropsychology** – the assessment of brain functioning in a clinical setting
- 10- **Positive psychology** – the study of wellbeing and living a good life (**example**)
- 11- **Neuroscience** – the study of the brain as a biological unit and its specifics that may or may not directly relate to behavior, thoughts, or feelings. It includes an understanding of how neurons communicate and function. (**example**)
- 12- **Sports psychology** – the study, training, and coping of sportsmen
- 13- **School psychology** – the study of a variety of psychological variables in a school context (**example**)
- 14- **Cyber-psychology** – the study of human behavior with a focus on internet-based behavior (**example**)

These are just 14 of the broad specializations. There are many many more – geriatric psychology, engineering psychology, counseling psychology, experimental and quantitative psychology, etc. You can snowball around these terms

The discipline of psychology is broadly divisible into two parts: a large profession of practitioners and a smaller but growing science of mind, brain, and social behavior. The two have distinctive goals, training, and practices, but some psychologists integrate the two.

Early History

In Western culture, contributors to the development of psychology came from many areas, beginning with philosophers such as Plato and Aristotle. Hippocrates philosophized about basic human temperaments (e.g., choleric, sanguine, melancholic) and their associated traits. Informed by the biology of his time, he speculated that physical qualities, such as yellow bile or too much blood, might underlie differences in temperament (*see also* humour). Aristotle postulated the brain to be the seat of the rational human mind, and in the 17th century René Descartes argued that the mind gives people the capacities for thought and consciousness: the mind “decides” and the body carries out the decision—a dualistic mind-body split that modern psychological science is still working to overcome. Two figures who helped to found psychology as a formal discipline and science in the 19th century were Wilhelm Wundt in Germany and William James in the United States. James’s *The Principles of Psychology* (1890) defined psychology as the science of mental life and provided insightful

discussions of topics and challenges that anticipated much of the field's research agenda a century later.

During the first half of the 20th century, however, [behaviourism](#) dominated most of American academic psychology. In 1913 [John B. Watson](#), one of the influential founders of behaviourism, urged reliance on only objectively measurable actions and conditions, effectively removing the study of [consciousness](#) from psychology. He argued that psychology as a science must deal exclusively with directly observable behaviour in lower animals as well as humans, emphasized the importance of rewarding only desired behaviours in child rearing, and drew on principles of [learning](#) through classical [conditioning](#) (based on studies with dogs by the Russian physiologist [Ivan Pavlov](#) and thus known as [Pavlovian conditioning](#)). In the United States most university psychology departments became devoted to turning psychology away from [philosophy](#) and into a rigorous [empirical](#) science

Behaviourism

Beginning in the 1930s, behaviourism flourished in the United States, with [B.F. Skinner](#) leading the way in demonstrating the power of [operant conditioning](#) through reinforcement. Behaviourists in university settings conducted experiments on the conditions controlling learning and “shaping” behaviour through reinforcement, usually working with [laboratory](#) animals such as rats and pigeons. Skinner and his followers explicitly excluded mental life, viewing the human mind as an impenetrable “black box,” open only to conjecture and speculative fictions. Their work showed that social behaviour is readily influenced by manipulating specific [contingencies](#) and by changing the consequences or reinforcement (rewards) to which behaviour leads in different situations. Changes in those consequences can modify behaviour in predictable stimulus-response (S-R) patterns. Likewise, a wide range of [emotions](#), both positive and negative, may be acquired through processes of conditioning and can be modified by applying the same principles.

Freud And His Followers

Concurrently, in a curious juxtaposition, the psychoanalytic theories and therapeutic practices developed by the Vienna-trained physician Sigmund Freud and his many disciples—beginning early in the 20th century and enduring for many decades—were undermining the traditional view of human nature as essentially rational. Freudian theory

made reason secondary: for Freud, the unconscious and its often socially unacceptable irrational motives and desires, particularly the sexual and aggressive, were the driving force underlying much of human behaviour and mental illness. Making the unconscious conscious became the therapeutic goal of clinicians working within this framework.

Overview of psychology as a discipline

People often mean to say personality, thoughts, behavior, thinking, issues, motives, needs, etc. when they talk about psychology. And sometimes, *vice-versa*. As you you've seen the scope of psychology is huge and it is now related to many allied fields.

I'd like to point out the following key aspects of psychology: It is a scientific investigation. That means, there are experiments, there are numbers, there is data, there is sampling, there is a rigorous use of psychological tools, description, prediction, logical criticism, systematic observation, and beyond all, it is evidence-based.

Psychology looks at all kinds of people and social groups, animals included. It is the study of the mind and behavior – everything included.

Chapter 2

Nature of the learner Nature of the learner and learning

The students' native ability dictates the prospects of success in purposeful activity. It determine their capacity to understand and assimilate information for their own use and application. ... Aptitude. Aptitude refers to the students' innate talent or gift. It indicates a natural capacity to learn certain skills. Progressivists believe that individuality, progress, and change are fundamental to one's education. Believing that people learn best from what they consider most relevant to their lives, progressivists center their curricula on the needs, experiences, interests, and abilities of students **Learning goals** allow you and your students to focus on what they are supposed to **learning**. When **learning goals** are explicit, they will guide your students' decisions on where to focus effort and illuminate what they are to take from a given task.. Learning objectives should be brief, clear, specific statements of what learners will be able to do at the end of a lesson as a result of the **activities**, teaching and learning that has taken place. They are sometimes called learning outcomes.

Examples of learning outcomes might include:

- Knowledge/Remembering: define, list, recognize;
- Comprehension/Understanding: characterize, describe, explain, identify, locate, recognize, sort;
- Application/Applying: choose, demonstrate, implement, perform;
- Analysis/Analyzing: analyze, categorize, compare, differentiate;

Meaning and Nature:

Learning is a key process in human behaviour. All living is learning. If we compare the simple, crude ways in which a child feels and behaves, with the complex modes of adult behaviour, his skills, habits, thought, sentiments and the like- we will know what difference learning has made to the individual.

The individual is constantly interacting with and influenced by the environment. This experience makes him to change or modify his behaviour in order to deal effectively with it. Therefore, learning is a change in behaviour, influenced by previous behaviour. As stated above the skills, knowledge, habits, attitudes, interests and other personality characteristics are all the result of learning. Learning is defined as “any relatively permanent change in

behaviour that occurs as a result of practice and experience”. This definition has three important elements.

- a. Learning is a change in behaviour—better or worse.
- b. It is a change that takes place through practice or experience, but changes due to growth or maturation are not learning.
 - c. This change in behaviour must be relatively permanent, and it must last a fairly long time.
 - All learning involves activities. These activities involve either physical or mental activities. They may be simple mental activities or complex, involving various muscles, bones, etc. So also the mental activities may be very simple involving one or two activities of mind or complex which involve higher mental activities.
 - What activities are learned by the individual refer to types of learning. For example, habits, skills, facts, etc. There are different types of learning. Some of the important and common learning activities are explained here.

Types of Learning:

1. Motor learning:

- Most of our activities in our day-to-days life refer to motor activities. The individual has to learn them in order to maintain his regular life, for example walking, running, skating, driving, climbing, etc. All these activities involve the muscular coordination.

2. Verbal learning:

- This type of learning involves the language we speak, the communication devices we use. Signs, pictures, symbols, words, figures, sounds, etc, are the tools used in such activities. We use words for communication.

3. Concept learning:

- It is the form of learning which requires higher order mental processes like thinking, reasoning, intelligence, etc. we learn different concepts from childhood. For example, when we see a dog and attach the term ‘dog’, we learn that the word dog refers to a particular animal. Concept learning involves two processes, viz. abstraction and generalisation. This learning is very useful in recognising, identifying things.

4. Discrimination learning:

- Learning to differentiate between stimuli and showing an appropriate response to these stimuli is called discrimination learning. Example, sound horns of different vehicles like bus, car, ambulance, etc.

5. Learning of principles:

- Individuals learn certain principles related to science, mathematics, grammar, etc. in order to manage their work effectively. These principles always show the relationship between two or more concepts. Example: formulae, laws, associations, correlations, etc.

6. Problem solving:

- This is a higher order learning process. This learning requires the use of cognitive abilities-such as thinking, reasoning, observation, imagination, generalization, etc. This is very useful to overcome difficult problems encountered by the people.

7. Attitude learning:

- Attitude is a predisposition which determines and directs our behaviour. We develop different attitudes from our childhood about the people, objects and everything we know. Our behaviour may be positive or negative depending upon our attitudes. Example: attitudes of nurse towards her profession, patients, etc.

Concept of Growth and Development

- 1- principles of growth and development
- 2- Theories of child Development
- 3- characteristics of child development
- 4- Adolescent meaning and definition
- 5- Adolescent characteristics
- 6- Development of Adolescent

Introduction –

Growth and development have been interchangeably used by most of the developmental psychologists because both the processes are interrelated and inter dependent on each other. It is difficult to differentiate the contribution either of them in the development of the

personality of an individual. **Growth** is defined as an irreversible constant increase in the size of an organ or even an individual cell. ... **Growth** refers to the increase in mass and size of a body. **Development** is the process where a particular organism, not only grows physically but acquires mental and physiological **growth** as well. Growth takes place all through the lifetime, but variably. The rate of growth is faster until an entity matures. After attaining maturity, growth is gradual and slows down before it ceases.

This entire process and phenomena, where an entity, physically grows, physiologically evolves, to attain mental growth and maturity is collectively referred to as Development. The process of development of shape and structure of a living organism is known as Morphogenesis, whereas Differentiation is the process of change in cells, tissues and internal & external organs. In these lessons, students become familiar with the four key periods of growth and human development: **infancy** (birth to 2 years old), early **childhood** (3 to 8 years old), middle **childhood** (9 to 11 years old), and **adolescence** (12 to 18 years old). **PHYSICAL DEVELOPMENT:** Includes muscle coordination and control, **growth** in size and in proportion. **Examples:** a child rolling over, lifting its head, or sitting up. **COGNITIVE DEVELOPMENT:** The ability of the brain or mind to take in and process information. **Factors That Influence the Growth and Development of a Child**

- **Heredity.** Heredity is the transmission of physical characteristics from **parents** to children through their genes. ...
- Environment. ...
- Sex. ...
- Exercise and Health. ...
- Hormones. ...
- Nutrition. ...
- Familial Influence. ...
- Geographical Influences

Periods of Development-Think about the life span and make a list of what you would consider the periods of development. How many stages are on your list? Perhaps you have three: childhood, adulthood, and old age. Or maybe four: infancy, childhood, adolescence, and adulthood. Developmentalists break the life span into nine stages as follows:

- Prenatal Development

- Infancy and Toddlerhood
- Early Childhood
- Middle Childhood
- Adolescence
- Early Adulthood
- Middle Adulthood
- Late Adulthood
- Death and Dying

This list reflects unique aspects of the various stages of childhood and adulthood that will be explored in this book. So while both an 8 month old and an 8 year old are considered children, they have very different motor abilities, social relationships, and cognitive skills. Their nutritional needs are different and their primary psychological concerns are also distinctive. The same is true of an 18 year old and an 80 year old, both considered adults. We will discover the distinctions between being 28 or 48 as well. But first, here is a brief overview of the stages.

Prenatal Development



Photo Courtesy Pink Sip

courtesy

Conception occurs and development begins. All of the major structures of the body are forming and the health of the mother is of primary concern. Understanding nutrition, teratogens (or environmental factors that can lead to birth defects), and labor and delivery are primary concerns.

Infancy and Toddlerhood



Photo Courtesy Pink Sip

courtesy

The first year and a half to two years of life are ones of dramatic growth and change. A newborn, with a keen sense of hearing but very poor vision is transformed into a walking, talking toddler within a relatively short period of time. Caregivers, pictured above is a loving grandmother, are also transformed from someone who manages feeding and sleep schedules to a constantly moving guide and safety inspector for a mobile, energetic child.

Early Childhood



Photo Courtesy Pink Sip

Early childhood is also referred to as the preschool years consisting of the years which follow toddlerhood and precede formal schooling. As a three to five-year-old, the child is busy learning language, is gaining a sense of self and greater independence, and is beginning to learn the workings of the physical world. This knowledge does not come quickly, however, and preschoolers may have initially have interesting conceptions of size, time, space and distance such as fearing that they may go down the drain if they sit at the front of the bathtub or by demonstrating how long something will take by holding out their two index fingers several inches apart. A toddler's fierce determination to do something may give way to a four-year-old's sense of guilt for doing something that brings the disapproval of others.

Middle Childhood



Photo Courtesy Pink Sip

The ages of six through eleven comprise middle childhood and much of what children experience at this age is connected to their involvement in the early grades of school. Now the world becomes one of learning and testing new academic skills and by assessing one's abilities and accomplishments by making comparisons between self and others. Schools compare students and make these comparisons public through team sports, test scores, and other forms of recognition. Growth rates slow down and children are able to refine their motor skills at this point in life. And children begin to learn about social relationships beyond the family through interaction with friends and fellow students.

Adolescence



Photo Courtesy

Adolescence is a period of dramatic physical change marked by an overall physical growth spurt and sexual maturation, known as puberty. It is also a time of cognitive change as the adolescent begins to think of new possibilities and to consider abstract concepts such as love, fear, and freedom. Ironically, adolescents have a sense of invincibility that puts them at greater risk of dying from accidents or contracting sexually transmitted infections that can have lifelong consequences.

Early Adulthood



Photo Courtesy

The twenties and thirties are often thought of as early adulthood. (Students who are in their mid 30s tend to love to hear that they are a young adult!). It is a time when we are at our

physiological peak but are most at risk for involvement in violent crimes and substance abuse. It is a time of focusing on the future and putting a lot of energy into making choices that will help one earn the status of a full adult in the eyes of others. Love and work are primary concerns at this stage of life.

Middle Adulthood



Photo Courtesy Pink Sip

The late thirties through the mid-sixties is referred to as middle adulthood. This is a period in which aging, that began earlier, becomes more noticeable and a period at which many people are at their peak of productivity in love and work. It may be a period of gaining expertise in certain fields and being able to understand problems and find solutions with greater efficiency than before. It can also be a time of becoming more realistic about possibilities in life previously considered; of recognizing the difference between what is possible and what is likely. This is also the age group hardest hit by the AIDS epidemic in Africa resulting in a substantial decrease in the number of workers in those economies (Weitz, 2007).

Late Adulthood



Photo Courtesy Pink Sip

This period of the life span has increased in the last 100 years, particularly in industrialized countries. Late adulthood is sometimes subdivided into two or three categories such as the “young old” and “old old” or the “young old”, “old old”, and “oldest old”. We will follow the former categorization and make the distinction between the “young old” who are people between 65 and 79 and the “old old” or those who are 80 and older. One of the primary differences between these groups is that the young old are very similar to midlife adults; still working, still relatively healthy, and still interested in being productive and active. The “old old” remain productive and active and the majority continues to live independently, but risks of the diseases of old age such as arteriosclerosis, cancer, and cerebral vascular disease increases substantially for this age group. Issues of housing, healthcare, and extending active life expectancy are only a few of the topics of concern for this age group. A better way to appreciate the diversity of people in late adulthood is to go beyond chronological age and examine whether a person is experiencing optimal aging (like the gentleman pictured above who is in very good health for his age and continues to have an active, stimulating life), normal aging (in which the changes are similar to most of those of the same age), or impaired aging (referring to someone who has more physical challenge and disease than others of the same age).

Death and Dying



Photo Courtesy

This topic is seldom given the amount of coverage it deserves. Of course, there is a certain discomfort in thinking about death but there is also a certain confidence and acceptance that can come from studying death and dying. We will be examining the physical, psychological

and social aspects of death, exploring grief or bereavement, and addressing ways in which helping professionals work in death and dying. And we will discuss cultural variations in mourning, burial, and grief.

Principles of Growth and Development

The principles are:

1. The Principle of Common Direction of Growth/Development
2. The Principle of Common Direction of Growth/Development
3. Sequential Development
4. Maturation or Readiness
5. Developmental Pace
6. Individual Differences
7. Differing Rates of Growth.

1. The Principle of Common Direction of Growth/Development:

Though pace of development or growth varies from individual to individual, and in different periods of life, the degree of development or growth may also vary yet the direction of development or growth remains the same in all cases. It is the head of the embryo which develops its shape first; and it does not change so much in size as is the case in regard to other parts of the body after the birth of the baby.

The internal organs, such as heart and lungs, develop to their full functional capacity at a very early stage; the outer parts develop later on. So, the direction of development may be said to be from head to legs, and, from interior towards the exterior.

2. The Principle of Common Direction of Growth/Development:

According to growth and development, the life of an individual is, generally, divided into four parts:

- (1) Infancy, from birth to 5 years;
- (2) Later Childhood, from 5 years to 12 years;
- (3) Adolescence, from 12 years to 18 years of age and
- (4) Adulthood, from 18 years and onwards.

Though it has been surveyed how growth and development occur during these different periods of life, nevertheless, it is not the case that growth and development of one particular

period of life cease to continue as soon as the period of one stage ends; the process of growth or development is a continuous feature of human life, or, of any organism, and, continues from the very beginning, and crosses over from the boundary of one period to the other.

of course, there is an average age by which, generally, an organ or limb or system of human body reaches its maturity and can perform its function very well that may be expected from one of that age.

And, even if one has not become matured enough to perform a certain action by the age which according to the norms of growth and development, one of that age should be able to do, it should not be concluded that the process of growth and development has now ceased for ever; the process should be expected to continue beyond that limit of age—it is the Principle of Continuity.

3. The Principle of Sequential Development:

In spite of there being a similar pattern of growth and development in all cases, the pace and degree vary according to individual differences; nevertheless, the sequence of growth and development is the same in all cases. By the sequence being the same, we mean, in all individual cases some parts or organs grow in size, weight, first, and others, after that.

A child cannot stand until it has developed the capacity to sit; so the sequence of development is that the child learns sitting first before it can stand; it learns standing first before it can walk. The sequence of the appearing of the deciduous teeth is the same in all cases, and so is the sequence of their falling—some fall first, some after them, and the others still later.

During the first three years, the child rapidly grows in size and weight; but there is a sequence in this development too, as to which part grows first and which later. Likewise, a common sequence is found in regard to bodily changes before it is the period of actual pubescence. And, if there is a case where the sequence is not the same, it should be taken as an exception. [Figs. 2.1 (a), (b), (c)].

4. The Principle of Maturation or Readiness:

A human being has to perform a number of functions in his life. Some of them happen to be very difficult or complicated requiring full skeletal-muscular-neurological development. Nature first matures the child's muscles and nerves, to enable him to perform a function for which such sort of maturity is essential.

This maturity is time-bound; for different kinds of functions different sorts of skeletal-muscular-neurological development is required. No amount of efforts to train a child to do something, for which he has not achieved maturity or readiness, can enable him to do the same.

5. The Principle of Developmental Pace:

Maturity indicators do not appear at regular intervals. Infancy is a period of accelerated growth when maturity indicators appear in various aspects of growth. During the pre-school and early school years, the pace of growth slackens; it is a period of decelerated growth.

But even during the period of decelerated growth, significant bodily, mental and affectional changes take place. There is a spurt of growth in height with the beginning of adolescence. Certain phases have accelerated growth before “they taper off to the adult level.”

6. The Principle of Individual Differences:

We have been talking of individual differences in all references to growth and development—they are there in spite of the facts of common pattern and common sequence. Individual differences are natural because of genetic and environmental differences that one has from the others.

The individual differences are seen in respect of appearing of the deciduous teeth, in respect of the time when a child starts walking independently, in respect of the appearance of signs of puberty both in case of an adolescent boy and a girl. In some cases, maturity is apparent earlier than in others, some do not mature according to their age, they lag behind others.

7. Differing Rates of Growth:

Different aspects of growth do not maintain a uniform pace of development all the time. By the age of 12 months, the child uses 3 to 5 words, but during the next 3 to 4 months, he may not acquire any new words; it may be because of his energy being utilised in acquiring the skill of locomotion. It is also likely that he may forget what words he had already acquired.

This continues even during the period of adolescence. The scholastic progress may be adversely affected during this period because of the excessive energy being utilised in the process of rapid growth and development; social and emotional factors also affect the school work.

Parts of body grow with varying rates during the different periods of life. Nervous systems grow rapidly during the early years. Along with this growth, there occurs rapid development in the skill of control over bodily manipulations; and, expansion of intellectual capacities.

During early adolescence, there takes place rapid growth of genital system—”social sexual interests and emotional capacities increase concurrently or soon afterward.”

In Table 2.1, the concept of growth and development has been defined:

Table 2.1 Distinguishing Growth and Development

<i>Growth</i>	<i>Development</i>
1. Growth is <i>concrete</i> change in size and weight.	1. Development includes growth but <i>abstract changes</i> are also referred to by this term.
2. Growth is a kind of development.	2. Development is wider, and includes growth also.
3. Physical growth, in some cases, may be a pre-condition for motor, mental or cognitive development.	3. Development may take place without any concrete/physical growth.
4. Growth is only physical.	4. Development may be physical, mental or emotional.
5. Growth becomes apparent through increase in size and weight of some organ/limb.	5. Development is perceived through behaviour, too.

General Factors Affecting Rate and Pattern of Growth and Development:

In the foregoing paragraphs, some general patterns of growth and development have been given, but in some cases, we find deviations from them. There are certain factors responsible for these deviations. In some cases, genetic accidents happen to be the causes; and because of this, change occurs in the rate as well as pattern of growth and development.

If there is interference, especially, during the prenatal period when the fetus develops its organs and systems of the body, it would mark its permanent impact on the growth and development of the child after birth. The child would become mentally retarded if there has been brain damage during the prenatal period, or during the early days of infancy.

If after birth, the baby does not get an environment which can fully satisfy his physical and psychological needs, it also thwarts the growth and development of the child; his fundamental needs must get full gratification.

Ingalls (1960) has underlined the importance of nutrition, activity, rest, psychological challenges, opportunity to learn, security in affection, an adequate and understanding discipline, and so on, in the realization of the potentialities ingrained by nature.

If all these factors are congenial, the development will be fast and to the possible extent. There can be no healthy growth if the child is not getting adequate feeding. Psychological deprivations would also cause the production of damaged personality.

Radiation and pollution are other factors which affect the growth and development in a seriously adverse manner. Cretinism may also be caused because of lack of iodine- salt, with iodine is the remedy.

A child deprived of the warmth of affection, and who is feeling insecure, may develop fear and anxiety as a part of his nature, and the result will be a neurotic personality. Such a personality may also be suffering from grudges or explosive tempers.

On the other hand, if a child gets adequate diet, an environment of affection and security, good teaching and other favorable factors in his circumstances, he will develop to his full potential.

Fortunately, human personality has great resilience—because of which it can make up temporary retardations “provided, the disturbing factors are removed in time; or the accident damage is not too devastating.”

An environment of too much protection is also not desirable as it would give the child no opportunity to develop immunity to life’s ordinary germs. And, an excessively coddled child is also likely to grow spoilt. For the development of desirable resistance and moral strength, circumstantial adversities are also helpful, if these are not too severe.

Maturation – Definition and Types of Maturation What is Maturation?

In very simple words, maturing is aging. It is the process with which we develop, grow and change throughout our entire lives. In children, maturation means going through their development stages. It is them being able to do tasks and things they could not do previously. So it can be said with maturing there is an increase in competency and adaptability.

Now maturation is a multi-faceted and automatic process. There is mental, physical, emotional, somatic growth and development in the child. Some of the changes are even genetic in nature.

During one’s lifetime, there are many types of maturation. But the two most important kinds of maturity during childhood are physical and cognitive maturation. Let us take a look at them

Definition of maturation—According to famous psychologist, Arnold Gessell, The role of Physical change is important in development. The development from infancy to adolescence governed by physical changes that are mapped out in the individuals's genes.

Types of Maturation

Physical Maturation

As the name suggests it indicates the physical development and growth that we go through as we get older. A child goes through some very distinct physical maturity as they progress through all their development stages. For example, in the early stages of development, a child depends on reflexes majorly. Then as they age, they develop their motor [skills](#) and coordination. They also grow taller and add more weight as they develop. Their body goes through hormonal changes as they leave adolescence and enter early adulthood.

Cognitive Maturation

This refers to the cognitive development of children from birth to adulthood. It refers to how babies think, learn, interact with their environment, etc. Some important aspect of cognitive development is the processing of information, language development, reasoning skills, development of intellects and memory.

This process of cognitive development begins right at infancy. An infant uses their sensory organs to explore their surroundings. By three months infants can actually distinguish faces and sounds. And as they go through adolescence and their teenage year, the cognitive development continues. Each stage is earmarked with certain benchmarks that the teachers can focus on to chart the child's cognitive maturity.

Maturation vs. Learning

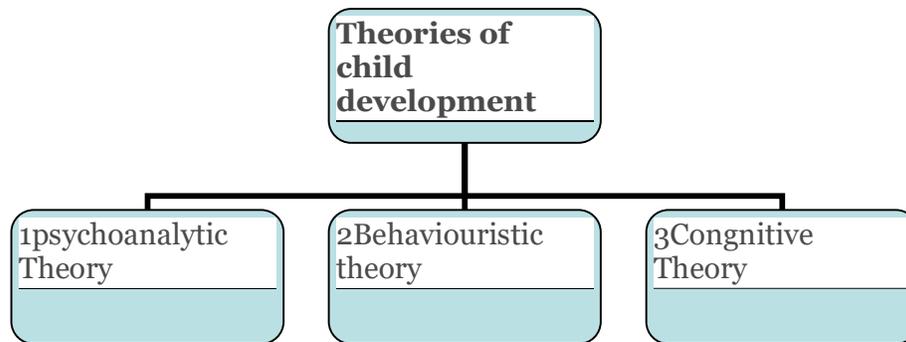
Maturation and learning are actually inter-related activities. However, they are not the same. Learning is the gathering of knowledge and skill with the help of study. This is with respect to formal learning. Informal learning begins from birth, the learning that comes from observation and experiences. Maturation, on the other hand, is an act of maturity. It refers to physical and mental development. So the ability to act, react and behave responsibly comes from maturity.

So while learning comes from experiences and practice, maturity comes from individual growth without any external stimuli. In fact, we can say that maturation is essential for learning skills. Attaining maturity enables in learning new skills.

This is one important factor that teachers must keep in mind. Because if learning precedes maturity, it can be a wasted effort. So learning must begin when the child is mature enough for that particular lesson.

Theories of child development

Child psychology has been an area of great importance and interest for the researchers. Here we will describe some of the major theories which explain child development from different angles. All theories of development can be classified into three broad categories -----



Psychoanalytic Theory—Here we will be briefly describe the theories of

- **Freud and Erikson**

Frued's THEORY

According to Freud a child passes through five major stages of psychosexual Development. Each stage characterised by certain Behavioural changes. The stages are given below----1-the oral stage 2-the anal stage, 3-phallic stage 4-latency stage 5-genital stage

Characteristics of Child Development

Children develop skills in five main areas of development:



Characteristics and Implications for Children

PHYSICAL DEVELOPMENT

- Characteristics Implications Physical growth is lower than during infancy and early childhood.
- Plan activities using large motor skills and introduce fine motor skills, one at a time.
- Muscular coordination and control is uneven and incomplete.
- Large muscles are easier to control than small muscles.
- Plan lots of physical activity with each meeting
- Able to handle tools and materials more skillfully than during preschool years.
- Introduce new physical activities that require coordination such as roller skating bike riding, rope jumping and simple outdoor games.
- Can throw different-sized balls better than they can catch them. Most cannot bat well.
- Provide projects that don't require perfection and that can be successfully completed by beginners. Most can learn to snap fingers, whistle and wink. Provide patient guidance and encouragement for fine motor activities.

- May repeat an activity over and over to master it

MENTAL DEVELOPMENT

Characteristics Implications Unable to handle abstract ideas.

Give instructions verbally and visually. Don't expect them to read.

Can distinguish their own left and right, but not yours. Avoid a lot of paper and pencil activities that require writing

. Define things by their use, i.e., pencil is for writing. Plan a series of small activities broken up by long times of physical exercise rather than one longer session.

Just learning letters and words. By six, most can read words or combinations of words.

Plan active learning around concrete objects.

Short attention span, sometimes as little as five to ten minutes. Provide lots of materials and mediums for learning (i.e., paper, paint, brushes glue, building blocks, games, puzzles).

A schema is a cognitive framework or concept that helps organize and interpret information. Schemas can be useful because they allow us to take shortcuts in interpreting the vast amount of information that is available in our environment.

However, these mental frameworks also cause us to exclude pertinent information to focus instead only on things that confirm our pre-existing beliefs and ideas. Schemas can contribute to stereotypes and make it difficult to retain new information that does not conform to our established ideas about the world.

Historical Background

The use of schemas as a basic concept was first used by a British psychologist named Frederic Bartlett as part of his learning theory. Bartlett's theory suggested that our understanding of the world is formed by a network of abstract mental structures.

Theorist Jean Piaget introduced the term schema, and its use was popularized through his work. According to his theory of cognitive development, children go through a series of stages of intellectual growth.

In Piaget's theory, a schema is both the category of knowledge as well as the process of acquiring that knowledge. He believed that people are constantly adapting to the environment as they take in new information and learn new things.

As experiences happen and new information is presented, new schemas are developed and old schemas are changed or modified.

Examples

For example, a young child may first develop a schema for a horse. She knows that a horse is large, has hair, four legs, and a tail. When the little girl encounters a cow for the first time, she might initially call it a horse.

After all, it fits in with her schema for the characteristics of a horse; it is a large animal that has hair, four legs, and a tail. Once she is told that this is a different animal called a cow, she will modify her existing schema for a horse and create a new schema for a cow.

Now, let's imagine that this girl encounters a miniature horse for the first time and mistakenly identifies it as a dog.

Her parents explain to her that the animal is actually a very small type of horse, so the little girl must at this time modify her existing schema for horses. She now realizes that while some horses are very large animals, others can be very small. Through her new experiences, her existing schemas are modified and new information is learned.

Types

While Piaget focused on childhood development, schemas are something that all people possess and continue to form and change throughout life. Object schemas are just one type of schema that focuses on what an inanimate object is and how it works.

For example, most people in industrialized nations have a schema for what a car is. Your overall schema for a car might include subcategories for different types of automobiles such as a compact car, sedan, or sports car.

Other types of schemas that people often possess include:

- **Person schemas** are focused on specific individuals. For example, your schema for your friend might include information about her appearance, her behaviors, her personality, and her preferences.
- **Social schemas** include general knowledge about how people behave in certain social situations.
- **Self-schemas** are focused on your knowledge about yourself. This can include both what you know about your current self as well as ideas about your idealized or future self.
- **Event schemas** are focused on patterns of behavior that should be followed for certain events. This acts much like a script informing you of what you should do, how you should act, and what you should say in a particular situation.

How Schemas Change

The processes through which schemas are adjusted or changed are known as assimilation and accommodation.

In assimilation, new information is incorporated into pre-existing schemas.

In accommodation, existing schemas might be altered or new schemas might be formed as a person learns new information and has new experiences.

Schemas tend to be easier to change during childhood but can become increasingly rigid and difficult to modify as people grow older. Schemas will often persist even when people are presented with evidence that contradicts their beliefs.²

In many cases, people will only begin to slowly change their schemas when inundated with a continual barrage of evidence pointing to the need to modify it.

How Schemas Affect Learning

Schemas also play a role in the learning process. For example:

- **Schemas influence what we pay attention to.** People are more likely to pay attention to things that fit in with their current schemas.
- **Schemas also impact how quickly people learn.** People also learn information more readily when it fits in with the existing schemas.
- **Schemas help simplify the world.** Schemas can often make it easier for people to learn about the world around them. New information could be classified and categorized by comparing new experiences to existing schemas.
- **Schemas allow us to think quickly.** Even under conditions when things are rapidly changing our new information is coming in quickly, people do not usually have to spend a great deal of time interpreting it. Because of the existing schemas, people are able to assimilate this new information quickly and automatically.
- **Schemas can also change how we interpret incoming information.** When learning new information that does not fit with existing schemas, people sometimes distort or alter the new information to make it fit with what they already know.
- **Schemas can also be remarkably difficult to change.** People often cling to their existing schemas even in the face of contradictory information.

Challenges

While the use of schemas to learn, in most situations, occurs automatically or with little effort, sometimes an existing schema can hinder the learning of new information.³

Prejudice is one example of a schema that prevents people from seeing the world as it is and inhibits them from taking in new information.

By holding certain beliefs about a particular group of people, this existing schema may cause people to interpret situations incorrectly. When an event happens that challenges these existing beliefs, people may come up with alternative explanations that uphold and support their existing schema instead of adapting or changing their beliefs.

Resistance to Change

Consider how this might work for gender expectations and stereotypes. Everyone has a schema for what is considered masculine and feminine in their culture. Such schemas can also lead to stereotypes about how we expect men and women to behave and the roles we expect them to fill.

In one interesting study, researchers showed children images that were either consistent with gender expectations (such as a man working on a car and woman washing dishes) while others saw images that were inconsistent with gender stereotypes (a man washing dishes and a woman fixing a car).

When later asked to remember what they had seen in the images, children who held very stereotypical views of gender were more likely to change the gender of the people they saw in the gender-inconsistent images. For example, if they saw an image of a man washing dishes, they were more likely to remember it as an image of a woman washing dishes.

EMOTIONAL DEVELOPMENT--- Characteristics Implications Sensitive to criticism, doesn't accept failure well. Always encourage effort.

Strong desire for affection and adult attention. Provide lots of opportunities for adult interaction with children.

Cooperative and helpful Provide opportunities for children to help in "adult-like" ways, such as setting up for an activity. Get upset with changes in plans and routine.

Give clear description of what your activity or schedule will be and maintain it. Say what they think and feel, i.e., "you stink," "you're ugly," etc.

SOCIAL DEVELOPMENT -- Characteristics Implications Learning to play cooperatively. Prefer to work in small groups of two or three. Still like to focus on his or her own work or play.

Organize projects and activities that involve two or three children.

If there is a larger group, break activities into sections so that only two or three are involved at one time. May begin to pair up to have a best friend; however, the best friend may change frequently.

Help children develop friendships through learning to share, taking turns, following rules and being trustworthy (not tattling).

Mother (or parent) is still social focus as prime caregiver; however, may “fall in love” with kindergarten teacher. Organize activities with high adult/child ratios. Likes being part of and around family.

Develop projects and activities involving or focusing on the family. Can engage in group discussions. Avoid competition or activities that select a single winner or best person.

May have need to first, to win, or to be the best and may be bossy. Use imaginary play that involved real-life situations (playing store, playing house).

Can be unkind to others, but extremely sensitive to criticism of self. Characteristics and Implications for Children Ages 7 – 8.

PHYSICAL DEVELOPMENT - Characteristics Implications Period of slow, steady growth. Will have difficulty with some fine motor projects such as gluing, cutting, hammering nails, bouncing balls, etc. Learn best if physically active. Can throw a ball more easily than catching it. Still awkward at some activities using small muscles, but have improved large muscle activities like riding a bike, skating or jumping rope. Provide opportunities to practice skills, but use projects that can be completed successfully by beginners. May repeat an activity over and over before mastering it. **MENTAL DEVELOPMENT** Characteristics Implications May spend more time alone doing projects, watching TV or daydreaming. Give instructions verbally and visually. Most children will be able to read and comprehend simple instructions. Beginning to understand the perspective of others. Can introduce some written assignments and activities; however, most children will still prefer to be active. Beginning to tell time. Activities requiring sorting, organizing or classifying will be enjoyed. Enormous curiosity and delight in discovery. Encourage children to develop or make collections. Are able to collect, sort, organize and classify. Encourage projects that can be done over and over in different ways. Can recognize some similarities and differences. Use lots of activities requiring the children to participate in a “hands-on” way. Can do some abstract thinking, but learn best through active, concrete methods. Guide the children in reflecting on their learning experience.

factors contributing to development such as

Heredity- These include things **such as genetics**, parenting, experiences, friends, family, education, and relationships. By understanding the role that these **factors** play, researchers are better able to identify how **such** influences **contribute to development**. Heredity influences several factors that contribute to fitness, such as **body size** and **muscle fiber composition**. Whether we are tall or short is determined by heredity. The percentage of slow-twitch and fast-twitch muscle fibers found in skeletal muscle is determined genetically. What are developmental factors? the conditions and variables that influence emotional, intellectual, social, and physical **development** from conception to maturity. Examples include parental attitudes and stimulation, peer relationships, learning experiences, recreational activities, and hereditary predispositions.

Heredity is defined as the characteristics we get genetically from our parents and our relatives before them. An **example of heredity** is the likelihood that you will have blue eyes. An **example of heredity** is your possibility of having breast cancer based on family history. Five main factors identified in contributing to growth and developments at early childhood are **nutrition**, parent's behaviours, parenting, social and cultural practices, and **environment**. What are the 5 developmental areas?

The **Five Areas of Development** is a holistic approach to learning that strives to break down the silos in education and ensure the **development** of a learner in all **Five areas of Development** - Cerebral, Emotional, Physical, Social and Spiritual.

Heredity is defined as the characteristics we get genetically from our parents and our relatives before them. An **example of heredity** is the likelihood that you will have blue eyes. An **example of heredity** is your possibility of having breast cancer based on family history.

Mendel's conclusions about alleles became the basis for two major laws of inheritance: the law of segregation and the law of independent assortment. The law of segregation states that allele pairs separate when gametes form. The law of independent assortment states the alleles from different genes sort independently Heredity Definition in Biology

Heredity is the study of how parents pass down their traits to their offspring through *genetics*. Many theories about heredity have existed, and the general concepts of heredity appeared before people understood cells completely.

However, modern-day heredity and genetics are newer fields.

Although the foundation for studying genes appeared in the 1850s and throughout the 19th century, it was largely ignored until the early 20th century. Human Traits and Heredity

Human [traits](#) are specific characteristics that identify individuals. The parents pass down these through their genes. Some easy-to-identify human traits are height, eye color, hair color, hair type, earlobe attachment and tongue rolling. When you compare **common vs. uncommon traits**, you are usually looking at [dominant vs. recessive](#) traits.

For example, a dominant trait, such as brown hair, is more common in the population, while a recessive trait, such as red hair, is less common. However, not all dominant traits are common.

If you are going to study genetics, you have to understand the relationship between DNA and *heritable traits*.

The cells of most living organisms have DNA, which is the substance that makes up your genes. When cells reproduce, they can pass down the DNA molecule or [genetic information](#) to the next generation. For instance, your cells have the genetic material that determines if you have blonde hair or black hair.

Your genotype is the [genes](#) inside the cells, while your phenotype is the physical traits that are visible and influenced by both the genes and environment.

There are variations among the genes, so DNA sequences differ. [Genetic variation](#) makes people unique, and it is an important concept in natural selection because favorable characteristics are more likely to survive and pass on.

Although identical twins have the same DNA, their gene expression may vary. If one twin receives more nutrition than the other does, he or she may be taller despite having the same genes.

History of Heredity

Initially, people understood heredity from a reproductive perspective. They figured out basic concepts, such as the pollen and pistils of plants being similar to the egg and sperm of humans.

Despite breeding hybrid crosses in plants and other species, genetics remained a mystery. For many years, they believed blood transmitted heredity. Even Charles Darwin thought blood was responsible for heredity.

In the 1700s, Carolus Linnaeus and Josef Gottlieb Kölreuter wrote about crossing different plant species and discovered that the hybrids had intermediate characteristics.

[Gregor Mendel's work](#) in the 1860s helped improve the understanding of *hybrid crosses* and *inheritance*. He disproved established theories, but his work was not fully understood upon publication.

Erich Tschermak von Seysenegg, Hugo de Vries and Carl Erich Correns rediscovered Mendel's work in the early 20th century. Each of these scientists studied plant hybrids and reached similar conclusions.

Heredity and Genetics

Genetics is the study of biological inheritance, and **Gregor Mendel** is considered its father. He established the key concepts of heredity by studying pea plants. Heritable elements are genes, and traits are specific characteristics, such as flower color.

Often called [Mendelian inheritance](#), his findings established the relationship between genes and traits.

Mendel focused on seven characteristics in pea plants: height, flower color, pea color, pea shape, pod shape, pod color and flower position. Peas were good test subjects because they had fast reproductive cycles and were easy to grow. After he established pure-breeding lines of peas, he was able to cross-breed them to make hybrids.

He concluded that traits like pod shape were heritable elements or genes.

Types of Heredity

Alleles are the different forms of a gene. Genetic variations such as mutations are responsible for creating alleles. Differences in DNA base pairs can also change function or phenotype. Mendel's conclusions about alleles became the basis for two major laws of inheritance: **the [law of segregation](#)** and **the [law of independent assortment](#)**.

The law of segregation states that allele pairs separate when gametes form. The law of independent assortment states the alleles from different genes sort independently.

Alleles exist in either dominant or recessive forms. *Dominant alleles* are expressed or visible. For example, brown eyes are dominant. On the other hand, *recessive alleles* are not always expressed or visible. For instance, blue eyes are recessive. In order for a person to have blue eyes, he or she must inherit two alleles for it.

It is important to note that dominant traits are not always common in a population. An example of this is certain genetic diseases, such as Huntington disease, which is caused by a dominant allele but not common in the population.

Since there are different types of alleles, some organisms have two alleles for a single trait. *Homozygous* means there are two identical alleles for one gene,

and *heterozygous* means there are two different alleles for a gene. When Mendel studied his pea plants, he found that the F₂ generation (grandchildren) always had a 3:1 ratio in their phenotypes.

This means that the dominant trait showed up three times more often than the recessive one.

Heredity Examples

[Punnett squares](#) can help you understand homozygous vs. heterozygous crosses and heterozygous vs. heterozygous crosses. However, not all crosses can be calculated using Punnett squares due to their complexity.

Named after Reginald C. Punnett, the diagrams can help you predict phenotypes and genotypes for offspring. The squares show the probability of certain crosses.

Mendel's overall findings showed that genes transmit heredity. Each parent transfers half of his or her genes to the offspring. Parents can also give different sets of genes to different offspring. For example, identical twins have the same DNA, but siblings do not.

Non-Mendelian Inheritance

Mendel's work was accurate but simplistic, so modern genetics has found more answers. First, traits do not always come from a single gene. Multiple genes control *polygenic traits*, such as hair color, eye color and skin color. This means that more than one gene is responsible for you having brown or black hair.

One gene can also affect multiple characteristics. This is *pleiotropy*, and genes may control unrelated traits. In some cases, pleiotropy is linked to genetic diseases and disorders. For example, sickle cell anemia is an inherited genetic disorder that affects the red blood cells by making them crescent-shaped.

In addition to affecting the red blood cells, the disorder affects blood flow and other organs. This means that it has an impact on multiple traits.

Mendel thought that each gene only had two alleles. However, there can be many different alleles of a gene. Multiple alleles can control one gene. An example of this is coat color in rabbits. Another example is the ABO blood-type group system in humans. People have three alleles for blood: A, B and O. A and B are dominant over O, so they are [codominant](#).

Other Inheritance Patterns

Complete dominance is the pattern that Mendel described. He saw one allele was dominant while the other one was recessive. The dominant allele was visible because it was expressed. Seed shape in pea plants is an example of complete dominance; the round seed alleles are dominant over the wrinkled ones.

However, genetics is more complex, and complete dominance does not always happen.

In *incomplete dominance*, one allele is not completely dominant. Snapdragons are a classic example of incomplete dominance. This means that the phenotype of the offspring appears to be in between the phenotype of the two parents. When a white snapdragon and a red snapdragon breed, they can have pink snapdragons. When you cross these pink snapdragons, the results are red, white and pink.

In *codominance*, both alleles are expressed equally. For example, some flowers can be a mix of different colors. A red flower and a white flower may produce offspring with a mix of red and white petals. The two phenotypes of the parents are both expressed, so the offspring has a third phenotype that combines them.

Lethal Alleles

Certain crosses can be lethal. A *lethal allele* can kill an organism. In the 1900s, Lucien Cuenót discovered that when he crossed yellow mice with brown mice, the offspring were brown and yellow.

However, when he crossed two yellow mice, the offspring had a 2:1 ratio instead of the 3:1 ratio that Mendel found. There were two yellow mice for one brown mouse.

Cuenót found out that yellow was the dominant color, so these mice were heterozygotes. However, about a fourth of the mice bred from crossing the heterozygotes died during the embryonic stage. This was why the ratio was 2:1 instead of 3:1.

Mutations can cause lethal genes. Although some organisms may die in the embryonic stages, others may be able to live for years with these genes. Humans can also have lethal alleles, and several genetic disorders are linked to them.

Heredity and Environment

How a living organism turns out depends on both its heredity and environment. For example, phenylketonuria (PKU) is one of the genetic disorders that people can inherit. PKU can cause intellectual disabilities and other problems because the body cannot process the amino acid phenylalanine.

If you only look at the genetics, you would expect a person with PKU would always have an intellectual disability. However, thanks to early detection in newborns, it is possible for people to live with PKU on a low-protein diet and never develop serious health problems.

When you look at both the environmental factors and genetics, it is possible to see how a person lives can affect gene expression.

Hydrangeas are another example of the *environmental impact* on genes. Two hydrangea plants with the same genes may be different colors because of soil pH. Acidic soils create blue hydrangeas, while alkaline soils make pink ones. Soil nutrients and minerals also influence the color of these plants. For example, blue hydrangeas must have aluminum in the soil to become this color.

Mendel's Contributions

Although Gregor Mendel's studies created the foundation for more research, modern genetics has expanded his findings and discovered new inheritance patterns, such as incomplete dominance and codominance.

Understanding how genes are responsible for physical traits that you can see is a crucial aspect of biology. From genetic disorders to plant breeding, heredity can explain many questions that people ask about the world around them.

Nutrition-- During **childhood**, under-**nutrition** causes **children** to have less energy and less interest for learning, which negatively influences cognitive **development** and academic performance. Under-**nutrition** will also affect physical **growth** and maturation, thus affecting **growth** rate, body weight and ultimately, height. **Nutrition** is **important** at every age. Your **children** need proper **nutrients** stay healthy and strong, and grow up healthy and strong. **Nutrition** for **children** can also help establish a foundation for healthy eating habits and **nutritional** knowledge that your **child** can apply throughout life. What nutrient is needed for proper growth and development?

Minerals, like **calcium** and **iron**, are important for growth, development and maintenance of the tissues and cells in our bodies. Vitamins, like vitamin A and **vitamin C**, are important for growth, development and maintenance of the tissues and cells in our bodies. Inadequate **brain growth** explains why children who were malnourished as fetuses and infants suffer often lasting behavioral and cognitive deficits, including slower language and fine motor **development**, lower IQ, and poorer school performance. What is the role of nutrition in development?

- **Nutrition** plays a critical **role** in human resource **development** since deficiencies in essential nutrients lead to malnutrition, which affects an individual's mental and physical state, resulting in poor health and poor work performance.
- **Eggs**. **Eggs** contain high-quality protein, healthy fats and other important nutrients like B vitamins and choline (1). ...

- Salmon. Salmon is a great choice for muscle building and overall health. ...
- Chicken Breast. ...
- Greek Yogurt. ...
- Tuna. ...
- **Lean Beef.** ...
- Shrimp. ...

Soybeans. What is the most important nutrient and why?

Nutritionists spend a lot of time discussing total digestible nutrients, **minerals**, crude **protein** and even various fractions of **protein**. However, we often take for granted the most important nutrient, the one required in the greatest amount by any class of livestock **water**. **Countries have committed to take ten steps to translate their commitments for nutrition into action:**

1. Eradicate hunger and prevent all forms of malnutrition.
2. **Increase** investments actions to **improve** diets and **nutrition**.
3. **Develop** coherent public policies to **enhance** sustainable food systems.

Regular **physical activity** helps **develop** your child's fundamental movement skills (i.e. physical literacy). In addition to helping maintain a healthy body weight **physical**

Nutritionists spend a lot of time discussing total digestible nutrients, **minerals**, crude **protein** and even various fractions of **protein**. However, we often take for granted the most important nutrient, the one required in the greatest amount by any class of livestock **water**. **Countries have committed to take ten steps to translate their commitments for nutrition into action:**

4. Eradicate hunger and prevent all forms of malnutrition.
5. **Increase** investments actions to **improve** diets and **nutrition**.
6. **Develop** coherent public policies to **enhance** sustainable food systems.

Regular **physical activity** helps **develop** your child's fundamental movement skills (i.e. physical literacy). In addition to helping maintain a healthy body weight **physical activity** can help build healthy bones, muscles, heart and lungs. **Physical activity** also helps your child keep a healthy body weight. **M**What is the most important food nutrient?

7 essential nutrients your body needs

1. **Water.** Keeping hydrated is really important. ...
2. **Carbohydrates.** **Carbohydrates**, or **carbs**, often get a bad rap as fattening, with many no-carb diets emerging in recent years. ...

3. **Protein**-Amino acids. **Protein** is critical for good health. ...
4. Fat. ...
5. Vitamins. ...
6. **Minerals**. ...
7. Omega-3 fatty acids.

Things such as vitamin, mineral and micronutrient supplementation; delayed cord clamping after birth, kangaroo mother care, early initiation of breastfeeding, promotion of dietary diversity, fortifying staple foods, cash transfer programmes, community-based nutrition education, and school feeding programmes. What is the difference between nutrition and nutrients?

Nutrition also focuses on how people can use dietary choices to reduce the risk of disease, what happens if a person has too much or too little of a **nutrient**, and how allergies work. **Nutrients** provide nourishment. Proteins, carbohydrates, fat, vitamins, minerals, fiber, and water are all **nutrients**. Regular **physical activity** helps **develop** your child's fundamental movement skills (i.e. physical literacy). In addition to helping maintain a healthy body weight **physical**.

Childrearing practices.....

Child-rearing customs and beliefs are not the same for all Indians. ... Influential factors on **child-rearing practices** such as socioeconomic status, education and individual experience vary from family to family. Social Differences

Here are nine child-rearing tips that can help you feel more fulfilled as a parent.

- Boosting Your **Child's** Self-Esteem. ...
- Catch Kids Being Good. ...
- Set Limits and Be Consistent With Your Discipline. ...
- Make Time for Your Kids. ...
- Be a Good Role Model. ...
- Make Communication a Priority. ...

Be Flexible and Willing to Adjust Your Parenting Style. What are the four styles of child rearing?

What Is My Parenting Style? Four Types of Parenting

- **Authoritarian** or Disciplinarian.
- **Permissive** or Indulgent.
- Uninvolved.
- Authoritative
- What is the most successful child rearing style?

Studies have identified four major parenting styles:

permissive, **authoritarian**, **authoritative**, and hands-off. Of these styles, child development experts have found that the **authoritative** parenting style is the most successful in raising children who are both academically strong and emotionally stable. What are Indian customs and traditions? Religion. India does have a diverse religious make-up, including **Buddhism**, Islam and Christianity, but by far the most widely practised is Hinduism. Hindu temples are therefore extremely commonplace throughout the country, and many traditions and practices from Hinduism have become intrinsic parts of Indian culture. What is peaceful parenting?

Peaceful Parenting has three parts.

1-The **parent** commits to regulating their own emotions,

2- prioritizes maintaining and strengthening

3- the **parent**-child connection (which is the only reason children cooperate), and loves the child unconditionally.

set of strategies used by **parents** to put their **children's** behaviors under control **are** called **parenting styles**

, which **can** be **influenced** by numerous **factors** including

!-- socio-economic variables

,2-- cultural differences, personal characteristics, and

3- psychological **factors**,

How do child rearing practices differ across cultures?

There are two fundamental patterns in **child-rearing**,

Individualistic and collectivist,

explains communication expert Marcia Carteret on Dimensions of

Culture. Individualistic **cultures** emphasize self-sufficiency, while collectivist ones emphasize the dependence of individuals on the group of which they are a part. How does culture affect early childhood education? For that reason, there's a vast array

of **cultural** differences in children's beliefs and behavior. Language is one of the many ways through which **culture affects development**. ... This **early** exposure **affects** the way children attend to themselves or to their relationship with others – forming their self image and identity.

Siblings and peers-----



Contact Us:

University Campus Address:

Jayoti Vidyapeeth Women's University

Vadaant Gyan Valley, Village-Jharna, Mahala Jobner Link Road,
Jaipur Ajmer Express Way, NH-8, Jaipur- 303122, Rajasthan (INDIA)

(Only Speed Post is Received at University Campus Address, No. any Courier Facility is available at Campus Address)

Pages : 40
Book Price : ₹ 150/-



Year & Month of Publication-3/3/2021