

Unit -1 : Development of Learner and Learning

Unit 1: Development of learner and learning : Learning –Domains of learning for holistic development –Phases of learning – influence of peer group, group cohesion and group dynamics on learning – Development of learner as a resultant of interactions between individual potential (innate, acquired) and external environment (physical, socio-cultural, ecological, Pecòmic and technological) –Nature and nurture, continuity and discontinuity issues, growth and maturation – Implications for teachers to develop holistic understanding of the learner in context.

Introduction

Learning occupies an important place in everybody life. Learner interacts with the environment at home and school and learns many things. Learning is a lifelong process by which the learner acquires knowledge attitudes, skills and other personality traits and social skills. Learning is essential for holistic development of an individual.

Definition of Learning

Learning is relatively a permanent change in the behaviour as a result of behaviour.

Henry P. Smith- Learning is the acquisition of new behaviour or the strengthening or weakening of old behaviour as result of experience.

Kimle- Learning is relatively a permanent change in behavioural potentiality that occurs as a result of reinforced practice.

Domains of learning for holistic development

Learning is everywhere. We can learn mental skills, develop our attitudes and acquire new physical skills as we perform the activities of our daily living. These domains of learning can be categorized as

- **Cognitive:** mental skills (*knowledge*)
- **Affective:** growth in feelings or emotional areas (*attitude or self*)
- **Psychomotor:** manual or physical skills (*skills*)

These three domains are not isolated entities or watertight compartments. Any achievement in one domain of a learner largely depends on the other domains. For e.g. interests and attitudes (affective domain) affect the quality of performance in both cognitive and psychomotor domain. Desirable changes in the psychomotor domain, to a greater extent, depend on the cognitive and affective domains. A learner who is intellectually sound, emotionally stable and physically good in performing the activities is said to have holistic development.

Cognitive domain

The cognitive domain involves the development of mental skills and the acquisition of knowledge. In this domain changes occur at the 'thinking' level. Learning belongs to this domain is essential for making the learner intellectually sound which is prerequisite for the holistic development of the learner. The six categories under this domain are:

Knowledge: the ability to recall data and/or information.

Knowledge is inclusive of Knowledge of terminology, Knowledge of specific facts and knowledge of ways of organising, studying, judging and criticising ideas and phenomena, knowledge of the universals and abstractions in a field,

1. **Comprehension:** The ability to understand the meaning of what is known.

Three types comprehensive behaviour are considered here. They are translation, interpretation and extrapolation.

2. **Application:** the ability to utilize a method, theory, principle or an abstraction or to use knowledge in a new situation. The fact that most of what we learn is intended for application to problem situations in real life.
3. **Analysis:** Analysis emphasizes the breakdown of the material into its constituent parts and detection of the relationship of the parts and of the way they are organised. Analysis behaviour are- analysis of elements, analysis of relationships, analysis of organisational principles.(**the ability to differentiate facts and opinions.**)
4. **Synthesis:** It is defined as the putting together of elements and parts so as to form a whole This is a process of working with elements, parts, etc., and combining them in such a way as to constitute a pattern or structure not clearly there before Synthesis behaviours- production of a unique communication, production of a plan, or proposed set of operations, derivation of a set of abstract relations. (**the ability to integrate different elements or concepts in order to form a sound pattern or structure so a new meaning can be established.**)
5. **Evaluation:** Man is apparently so constituted that he can not refrain from evaluating, judging, appraising, or valuing almost everything which comes within his purview. It involves the use of criteria as well as standards for appraising the extent to which particulars are accurate, effective, economical or satisfying. The judgement may be either those determined by the student or those which are given to him. Evaluation behaviour = judgement in terms of internal evidence and judgement in terms of external criteria. (**the ability to come up with judgments about the importance of concepts.**)

Affective domain

The affective domain involves our feelings, emotions and attitudes. Learning in the affective domain pertains to changes in interest, attitudes, values and development of appreciation and adequate judgement. This is a higher level of learning at a different level which is required for holistic development of a learner. This domain is categorized into 5 subdomains, which include:

1. **Receiving:** It refers to the learner's willingness to attend to particular phenomenon or stimuli. That is **the learner shows sensitivity to the stimuli**. It is inclusive of i) awareness of the stimuli ii) willingness to receive and iii) continue to attend.
2. **Responding:** It refers to a tendency to respond to a particular object or stimuli. (**active participation of the learner.**)
It is inclusive of i) acquiescence in responding, ii) willingness to respond and iii) satisfaction in response.
3. **Valuing:** Valuing is concerned with the worth or value a learner attaches to a particular object, phenomenon or behaviour. This ranges in degree from the more simple acceptance of a value to the more complex level of commitment.
It is inclusive of i) acceptance of a value, ii) preference of a value and iii) commitment.
4. **Organization:** It refers to the ability to prioritize a value over another and create a unique value system. Thus the emphasis is on comparing, relating, and synthesising values.
It is inclusive of i) conceptualisation of a value and ii) organisation of a value system.
5. **Characterization:** It refers to the ability to internalize values and let them control the person's behaviour.
It is inclusive of i) generalised set and ii) characterisation

Psychomotor domain

Psychomotor behaviors are performed actions that are neuromuscular in nature and demand certain levels of physical dexterity. It is comprised of utilizing motor skills and coordinating them. The seven categories under this include:

Imitation

The learner observes and then imitates an action. These behaviors may be crude and imperfect. The expectation is that the individual is able to watch and then repeat an action. It is inclusive of impulsion and overt repetition.

Manipulation

It refers to Performance of an action with written or verbal directions but without a visual model or direct observation. The action may be performed crudely or without neuromuscular coordination at this stage. Notice that the action verbs are the same as those for the imitation stage. The difference is that these actions are performed with the aid of written and verbal instruction, not visual demonstration. It is inclusive of following direction, selection and fixation.

Precision

It refers to performance of some action independent of either written instructions or a visual model. (refining, becoming more exact). One is expected to reproduce an action with control and to reduce errors to a minimum. It is inclusive of reproduction and control.

Articulation

It refers to the display of coordination of a series of related acts by establishing the appropriate sequence and performing the acts accurately, with control as well as with speed and timing. (Coordinating a series of actions, achieving harmony and internal consistency.). It is inclusive of sequence and harmony.

Naturalisation

High level of proficiency is necessary. The behavior is performed with the least expenditure of energy, becomes routine, automatic, and spontaneous. It is inclusive of automatism and interiorisation.

Phases of learning

1. **Motivation phase** –The learner must be motivated to learn by expectation that learning will be rewarding
2. **Apprehending phase** –Learner pays attention if learning has to take place. The learner must attend to essential features or main key points of what is to be learnt. Teacher can help the learner by emphasizing the main points.
3. **Acquisition phase** –While learner is paying attention, the stage is set and the information is presented. Information being learnt is not directly stored in the memory; it needs to be transformed into meaningful form that relates to information already in learner's memory.
4. **Retention phase** –Newly acquired information must be transferred from short term to long term memory.
5. **Recall phase** –recall learned information; to learn to gain access to what has been learned is a critical phase in learning.
6. **Generalization phase** – transferring and applying the knowledge or skill to new situations.
7. **Feedback phase** – Students must receive feedback on their performance –**assessment**. This acts as a reinforce for future successful learning.

Influence of Peer group, group cohesion and Group dynamics on Learning

A **peer group** is both a social group and a primary group of learners who have similar interests, age, background, or social status. Peers serve many important roles in the life of a developing child- The perspectives of others will affect children's perspectives of values, attitudes, family, habits etc. When confronted with other perspectives, they often need to rethink their own viewpoints. The subculture of the peer group can be very telling in determining students' motivation to succeed in academics. As children leave the home setting, their self-perception and socializing skills become influenced by how their peers view them. When children move out from family to child-care centers, school, and the community at large, they begin to form attachments, and friendships emerge through their play. These relationships influence behavior. The peer group serves as a barometer for children examining themselves and their feelings about self and environment. The peer group can influence what the child values, knows, wears, eats, and learns. The extent of this influence, however, depends on other situational constraints, such as the age and personality of children and the nature of the group. The relative influence of peer groups typically increases with the age and development of the student. (R.J.L. Manoharan, Pope John Paul II College of Education)

Group Cohesion

Group Cohesion can be more specifically defined as the tendency for a group to be in unity while working towards a goal or to satisfy the emotional needs of its members. cohesion is positively related with performance. When, members have highly interdependent roles cohesion is strongly related to performance. Hence group cohesion affects the quality of performance in the affective domain. Members in cohesive groups are more optimistic and suffer less from social problems than those in non-cohesive groups. Learners in cohesive groups experience better emotional adjustment. Many studies have found that an individual without close peer relationships are at a higher risk for emotional adjustment problems currently and later in life. Hence group cohesion plays a major role in bringing about desirable changes in the emotional aspect of the learner i.e. in the affective domain. Group cohesion enables the learner to acquire social skills. Members in the group share their responsibilities; have concern for others, extending moral support to others and maintain team spirit in order to realise the common goal of the group. Hence, members in the group acquire social skills which are essential for relating oneself with others in the society in their future life.

Group dynamics is concerned with the interactions of forces among group members in a social situation. As we know that students live in groups in school as their classroom, group of playmates, hobby club, science club, library etc. It is natural that students interact with each other in groups to perform their needs, get information, provide messages etc. As we know that human behaviour is not static, so when students interact in their group with other members then the behaviour of members who constantly, interact, undergoes continuous changes. Those changes in their behaviour are related to all the three

domains namely cognitive, affective and psychomotor domains. (R.J.L.Manoharan, Pope John Paul II College of Education).

Interaction between individual potential and External environment

Physical Environment

White (1972) estimates the impact of Physical environment on the learning:"... general estimates indicate that while about seventy-five percent of learning is accounted for by motivation, meaningfulness, and memory, the remaining twenty-five percent . . . is dependent upon the effects of the physical environment. In general, therefore, the success of education(education is for the development of the learner) is dependent to a considerable extent upon the facilities and environment provided for the learner and his interaction with them."

Physical environment is "another teacher." And in the sense that it can motivate the learner, enhance learning, and reduce behavior problems, environment really is an extra teacher. E.g. a classroom might feature a quiet reading corner, a music area where students can play soft music while completing work, a discussion/conversation center, a large table for cooperative projects, spaces for wet or messy projects, multimedia spaces, learning centers or stations, and individual work areas. When the learners interacts with such physical environment, the outcome would be a measurable development in the learner. His interactions with the stimuli , provided by other physical aspects such as library, sports and games, subject clubs etc play a prominent role in bringing about a well balanced personality in him.

The social and cultural environment:

It includes the aspects of social interaction including its products such as beliefs, attitudes, stereotypes, etc. The material and non-material aspects of environment are included in it. Cultural demands and social expectations influence learning deeply; the spirit of culture is reflected in its social and educational institutions. The major theme of Vygotsky's theoretical framework is that social interaction and culture play fundamental roles in the development of cognition. The socio-emotional factors such as child rearing practices, reward and punishment, scope for freedom in activities ,decision making, play and study facilities, disorganization and discord among birth positions such as eldest or youngest child have definite influence on learning. (R. John Louis Manoharan, PJP College of Education).

Children grow up in their socio-cultural context which will influence their childhood. children's socio-cultural context can have a large influence on their development. We know that culture influences how children develop; across different cultures, children develop in quite different ways (Montgomery, 2008). The sociocultural environment presents the child with a variety of tasks and demands, and engages the child in his world through the tools. Therefore, the interactions of an individual with his or her socio-cultural environment have a significant impact on his or her development. This development enables an individual to take a successful place in the society in future and to lead a better life.

Technological Environment

Technological environment can provide a context for collaboration, co-operation, and positive learning experiences. Technology can allow children to engage in self-directed exploration and cater to individual needs. But interactions of a learner with Technology is determined by his or her individual potentials(innate and acquired). The previous experiences and knowledge, technology literacy, level of motivation and achievement motivation, attitudes, self interest, IQ etc determine the quantity and quality of development of learner which is a resultant of his interactions with technological environment. Interaction with Technological environment results in learner's cognitive and emotional development, and the development of social , co-operative skills and technology skills; and facilitates the emergence of "new literacies" or "multiliteracies" in learner. Learner's development of multiculturalism is a resultant of interaction with technological environment. The level of interaction with technological environment determines, the extent of its influence on personality development of a learner.

Economical Environment

Parents face major challenges when it comes to providing optimal care and education for their children. For families in poverty, these challenges can be formidable. Sometimes, when basic necessities are lacking, parents must place top priority on housing, food, clothing, and health care. Educational toys, games, and books may appear to be luxuries, and parents may not have the time, energy, or knowledge to find innovative and less-expensive ways to foster young children's development. Poor families also may have inadequate or limited access to community resources that promote and support children's development. But children in families with sound economical background get all the facilities and care needed for their development in all the spheres of personality. When they interact with such environment, the rate of their development is accelerated. (R. John Louis Manoharan, PJP College of Education).

Socio-emotional development is closely related with economic environment. Very young children require healthy learning and exploration for optimal brain development. Strong, secure relationships help stabilize children's behavior and provide the core guidance needed to build lifelong social skills. Children who grow up with such relationships learn healthy, appropriate emotional responses to everyday situations. Development in a learner is also a resultant of his interactions with his family economic environment.

Ecological Environment

Ecological environment refers to all living and non living things around us within which we live and work. People have a two way relationship with the ecological environment. An individual lives and work is affected by the ecological environment he or she lives in. From an ecological perspective, the learner is immersed in an environment full of potential meanings. These meanings become available gradually as the learner acts and interacts within and with this environment. Learning is not a holus-bolus or piecemeal migration of meanings to the inside of the learner's head, but rather the development of increasingly effective ways of dealing with the world and its meanings. Therefore, to look for learning is to look at the active learner in her/his environment, not at the contents of her brain.

Nature and Nurture in Development of a learner

Nature and Nurture

Both nature and nurture played a vital role in learning of human being. So as a teacher we should have the knowledge of nature and nurture of the students.

The Meaning of Nature:

Man's behaviour is influenced by two forces: nature and nurture. The biological or psychological characteristics which are transmitted by the parents to their off-springs are known by the name of nature. Nature is, in other words, a biological process of transmission of certain traits of behaviour of the parents to their children, by means of the fertilized egg. Nature traits are innate; they are present at birth.

Nature:

Nature refers to the genetic inheritance received by every individual at the time of conception. The origin of every human life can be traced to a single cell called zygote. It is formed by the union of sperm and ovum.

The sperm and ovum will contain 23 pairs of chromosomes out of which one will be sex determining chromosome. Female will have 23 pairs of XX chromosomes. Male will have 22 pairs of XX and 2 single, represented as XY. X chromosome from mother and Y chromosome from father will lead to male offspring, XX from both parents give rise to female. In each chromosome there are innumerable genes.

These genes are the real determiners of hereditary characteristics—which pass on from one generation to the other. At the time of conception, the genes from chromosomes of both the father and the mother fuse together and determine the traits of the offspring to be born.

The physical characteristics such as height, weight, colour of eye and skin, social and intellectual behaviour are determined by nature. Differences in these characteristics are due to the change in the genes transmitted. Fraternal twins also differ from each other, because they are born out of different genes. However, we find more resemblances in identical twins because they are born out of monozygotic.

Nurture:

In simple terms nurture means the society, the fields of society and even the whole world. But here, the word nurture is restricted to mean the nurture within mother's womb and just born, as well as the nurture around the individual.

Like nature, nurture also has been found to play a very important role in determining the behaviour and personality development of an individual. The nurtural influences are those which act upon the organism at the earlier stages of development, i.e., before and also after birth.

Nurture includes all the extrinsic forces, influences and conditions which affect the life, nature, behaviour, the growth, development and maturation of living organism (Douglass and Holland).

Hence, we can say that nurture means all that is found around the individual. The zygote is surrounded by a jelly like substance known as 'cytoplasm'. The cytoplasm is an intracellular nurture which influences the development. Though the life begins with single cell, in the process of cell division several new cells are formed and a new internal nurture comes into existence.

Growth and Maturation

Growth

In psychology, though, growth and maturation are a little different. **Growth** is the physical process of development, particularly the process of becoming physically larger. It is quantifiable, meaning that it can be measured, and it is mostly influenced by genetics. For example, the year that she was 11, Keisha got taller by two inches. This is an example of growth because it involves her getting physically taller and is quantifiable (two inches).

Maturation

Maturation is the process by which we change, grow, and develop throughout life. Developmental psychologists look at many different types of maturation throughout the lifespan. The types of maturation that we'll focus on in this lesson are physical maturation and cognitive maturation.

Learning

Learning is the process of understanding, clarifying, and applying the meaning of the knowledge acquired. Furthermore, it can also be an exploration, discovery, refinement, and extension of the learner's meaning of knowledge. Over a ll, learning occurs when an individual's behavior or knowledge changes.

Relation between Maturation and learning

Definitions of Maturation and Learning:

- Learning is a process that results in a behavioral change in the individual.
- Maturation is a process where the individual learns to react to situations in an appropriate manner.

Processes:

- Learning is through practice and experience.
- Maturation is through individual growth and development.

External Stimuli:

- Learning is a response to external stimuli that result in individual change.

- Maturation does not need external stimuli.

Maturation and Learning:

- Maturation influences the process of learning. If an individual has not achieved the necessary level of maturity, a particular learning behavior cannot be expected.

Implications for teachers to develop holistic understanding of the learner

Every individual is molded with unique heredity and different environment. So, individual differences are greatly showing among the individuals. Hence as a teacher you should understand the individual differences of the pupil, accordingly methodology, approaches and styles should be modified by satisfying all the students. Then only we can understand the students holistically.

Continuity and Discontinuity in Development of a learner

One of the major controversies in developmental psychology centres whether development is continuous or discontinuous. Developmental psychologists who support the continuity view suggest that development is a continuous process that is gradual, cumulative and ongoing changes throughout the life span, with behaviour in the earlier stages of development providing the basis of skills and abilities required for the next stages.. For example, a child learns to crawl, and then to stand and then to walk. They are gradually learning how to walk. It's just like hiking up the mountain path: a slow, steady ascent that leads to the top.

On the other hand, some people see development as consisting of different stages. They believe development involves distinct and separate stages with different kinds of behaviour occurring in each stage. This suggests that the development of certain abilities in each stage, such as specific emotions or ways of thinking, have a definite starting and ending point. However, there is no exact time at which an ability suddenly appears or disappears. The discontinuity view of development believes that people pass through stages of life that are qualitatively different from each other. For example, children go from only being able to think in very literal terms to being able to think abstractly. They have moved into the 'abstract thinking' phase of their lives. As you can imagine, discontinuous development is like walking up the stairs: a series of stages, or steps, that get you to the top of the mountain. Both continuous and discontinuous developments are essential for overall development of a learner.

Growth and Maturation in development of a learner

In psychology, though, growth and maturation are a little different. **Growth** is the physical process of development, particularly the process of becoming physically larger. It is quantifiable, meaning that it can be measured, and it is mostly influenced by genetics. For example, the year that she was 11, Keisha got taller by two inches. This is an example of growth because it involves her getting physically taller and is quantifiable (two inches).

On the other hand, **maturation** is the physical, intellectual, or emotional process of development. Maturation is often not quantifiable, and it too is mostly influenced by genetics. For example, as Keisha became older, her brain developed in a way that meant she was able to handle more complex tasks than she could before.

Notice that, while growth is physical, maturation is physical, intellectual, or emotional. Often, maturation involves two or even all three. E.g. Kamaraj's brain physically developing allowed him to intellectually understand complex matters better. In fact, the emotional component of empathy is sometimes affected by physical and intellectual maturity. As a person's brain physically develops, they are able to understand intellectually what others are going through and how they might feel, and that allows them to emotionally feel empathy for others. Hence, growth and maturation play a major in the development of a learner.