UNIT NO 3

PSYCHOLOGICAL FOUNDATIONS OF EDUCATION-I

Written By:
DR. MUHAMMAD RASHID
DR. MUHAMMAD JAVED IQBAL
Reviewed by:
DR. FAZAL-UR-RAHMAN

27

1. INTRODUCTION

Learning basically depends upon human maturation and motivation. Human development stages largely relate to the interaction of learning and maturation.

Learning is a multisensory process which occurs as a result of some intervention with the environment. It not only occurs in the classroom but also takes place continuously in our lives through interaction and experiences. It is not something which is 'correct'. If a student misspells a word. It shows only that he has learnt wrong spelling but learning is there. Moreover, learning does not have to be deliberate or conscious. So the fact is that different schools of psychology present different definitions of learning but share a few common ideas. For example, every definition of learning uses the terms 'change and experience'.

The human learning is an open system which is highly individual and complex organic process that allows the individual not only to adapt to his environment but also to change and shape them in an infinite number of ways.

2. OBJECTIVES

After completion of this unit you will be able to:

- define learning
- differentiate between learning and maturation

3. LEARNING AND MATURATION

Childs' behaviour is influenced and modified by interaction of maturation and environment. Maturation sets limit within which learning can occur. Since maturational processes are at present outside teachers' influence and control, learning remains as the major variable over which we as teachers can have some influence.

3.1   Learning

Learning is a process in human behaviour, it occurs in everything we do or think. It plays a control role in language we speak, our customs, our attitudes, our beliefs, our goals, our personality traits, both adaptive, and maladaptive. Learning can be defined as relatively permanent change in behaviour which occurs as a result of practice or experience.

If we analyse this definition, we find three important factors or elements in it:

1)   Learning is change in behaviour which may be for worse or better.

2)   This change occurs through practice or experience thus distinguishing it from maturation

3)   It is relatively permanent in its nature.

It may be considered as the resultant of an individuals' attempt to solve a specific problem. As a teacher, a manager, and a facilitator, we will be looking at learning in this way. Learning is a process in which the person (student, parent, yourself) interacts with the effective environment to produce a stable change in the behaviours. If we analyse this definition we will find these four crucial elements:

i)   Person

ii)   Interaction

iii)   Environment and

iv)   Behavioural change

These are four pre-requisites to learning. The challenge for us as teachers is to develop ways to answer the following questions raised by Worell and Stilwell (1981, p.225) in our classroom.

What is the appropriate learning strategy for this particular individual with the distinctive educational goal in the different environment? For example, which learning strategy will improve student driving skill? In our classroom activities, we assess and balance learning strategies, student characteristics, educational

goals, and uniqueness of classroom environment. This assessment can contribute in planning to facilitate a particular student or group behaviour change. This plan will be designed jointly and will challenge teachers abilities to manage, mediate, or facilitate a change for a classroom or a student in a sensitive manner. It is a fact that a teacher has to consider behaviour as well as behaviours. A person does not perform a single behaviour because people demonstrate a sequence of behaviours, often at the same time. Behaviour has a number of characteristics, understanding of these, facilitate, the classroom management, meditation, and learning process. The process of learning continues beyond the formal schooling. Worell and Stilwell (1981, pp.225-227) have listed characteristics of behaviour as:

- Behaviour of learning
- Behaviour is predictable
- Behaviour may be overt or covert
- Behaviour may be learned
- Behaviour may be appropriate or inappropriate
- Behaviour may be unlearned

3.2 Maturation

Development in its most general psychological sense refers to changes that occur in human beings from birth to death. This is applied to all those which occur in orderly and remain for a long time. A temporary change for example due to illness is not considered to be a development. Human development is broken into number of aspects.

Some of these may be:

Physical development: It deals with changes in the body.

Cognitive development: It refers to changes the ways a person thinks.

Personal development: It is used for changes in individuals' personality.

Social development: It refers to changes in the way a person deals with others.

Many of the changes involved in human development are simply result of growth and maturation. Maturation refers to the changes that occur maturely and spontaneously and are to a large extent, genetically programmed. Such changes are not usually affected by the environment but exception may be there, as maturation may be adversely affected by severe malmaturation or illness. Much of one's physical growth falls in this category of maturation. Other changes are brought with ones' interaction with the environment. Such changes comprise of persons' social development. But what about the development of thinking and personality? Most of the psychologists agree that both maturation and interaction with environment plays important role in these areas of development.

During the development, individual may or may not be learning new response patterns. Development includes what is learned from internal on external stimulation but also physical and structural changes that take place as growth proceeds towards maturity. Learning cannot occur until the appropriate physical structure develops.

It is important to note that before we proceed further that patterns of maturation for all children seem to essentially the same. However timing of development may vary. The pattern of learning to walk, for example is orderly sequence, i.e. creeping, crawling, standing-up, holding on to a chair or table, standing alone and waling- but exact time at which one will walk vary. Usually this time is about 15 months of age. If a child is very late in walk, his intelligence may be low but this is a complex matter. At the same time gifted children may be slow in walking if they lack motivation or not given chances to walk or over weight etc.

All parts of a human being does not develop and mature at the same rate. Growth follows a cycle where some areas develop more rapidly, some more slowly, and some sport or increase dramatically, all in short time.

3.3 Learning and Maturation

Maturation emphasises the influence of variables which are internal to the organism while learning always results from interaction with the environmental conditions. Learning is a change in performance as a function of practice and this is in the direction which satisfy the present motivating conditions of the individual cognition in human development. It is broad and inclusive concept that refers to the mental abilities involved in acquisition, processing, organising and use of knowledge. Major processes, that fall under these, are according to Mussan et-al (1984, p.219) detecting, interpreting classifying and remembering information, evaluating ideas, inferring principles, deducing rules, imaging possibilities, generating strategies, fantasizing and dreaming. The developmental psychologists ask two major questions in this regard.

(i)   What major changes in cognitive function occur as children grow?

(ii)   What factors, account for these changes?

There are two different theoretical approaches to these questions. First is piaget influential theory which is problem solving and gives attention to perception, memory, fantasy and dreaming. The second is usually called information process approach. This approach focuses on age changes in perception, memory, inference, evaluation, and use of rules.

It is a fact that maturation of brain cannot be separated from consequence of active experiences. Jean Piaget, mentioned four stages of cognitive development. These include:

Sensorimotor stage	0-18 months
Pre operational stage	18 months- 7 years
Concrete operational stage	7-12 years
Formal operational stage	above 12 years

These age limits are approximate but all children go through these. No child skips from sensorimotor stage to concrete operational stage. This is because each stage builds on, and is derivative of, accomplishment of the previous one. At

each stage, more different, more adaptive cognitive capabilities are added to what has previously been achieved.

3.4 Maturation and Learning in Human Infant

Human infant grows so rapidly that some patterns of behaviour emerge almost overnight. As infant cannot remove himself from restricted environment, it is relatively easy to control experimentally many of environment impacts which he might receive otherwise.

McGraw Theory of Maturation interprets that behaviour patterns of human infants are controlled by following developmental levels in neuromuscular maturation.

1) Behaviour mediated by subcortical or nuclear mechanisms.

2) Diminution of overt behaviour as a result of cortical inhibition.

3) Voluntary behaviour as cortical control centres more complete.

4) Smooth performance as various neural centres become integrated.

From these theoretical interpretations the following principles are drawn:

1) Training in any particular activity before neural mechanisms have reached a certain state of readiness is futile.

2) Exercise of newly developing function is inherent in the process of growth, and if ample opportunity is afforded at the proper time, specific achievements can be advanced beyond the stage normally expected.

3) Periods of transition from one type of neuromuscular organization to another are inherent part of development and are often characterized by disorganization and confusion.

4) Sports, regression, frustrations and inhibitions are an integral part of organic growth, and there is reason to believe that they also function in the development of complex behaviour activities.

33

5) Maturation and learning are not different processes, merely different facts of fundamental process of growth.

6) Evidence that a child is ready for a particular educational subject is to be found in certain behaviour signals, or behaviour syndromes, which reflect the maturity of neural mechanisms. (Thompson, 1962, pp.115-116).

3.5   Maturation and Learning in Pre-school Aged Children

Human behaviour becomes more complex as age increases, maturational processes are more highly differentiated and environmental factors increase. All these make it difficult to identify the factors of maturation and learning as infant moves into pre-school age group. In our culture it is not possible to conduct environmental restriction experiments with older students which have sufficient duration so effects of maturation alone can be traced out.

A number of experts suggest that children go through critical period during which learning opportunities are specially effective and beyond which are less effective, innate releasing mechanisms become functional on maturational basis. If opportunities to learn during a given developmental period do not occur, children may fail to learn a given behaviour pattern.

3.6   Maturation and Learning in Elementary School Children

As children become older, individual differences in abilities are magnified, different rates of psychological growth result in larger absolute differences in achievement levels as children grow. This increasing divergence in abilities with advancing chronological age by itself a poorer and poorer criterion for approximating the maturational – experiential level of older children. As child becomes older, need for special scales becomes more and more apparent so that his developmental status can be determined in various aspects of psychological growth. This includes intelligence tests, social maturity, motor abilities, reading readiness, academic achievements, and emotional maturity etc. Such instruments measure a combination of maturational status and experimental background.

Because maturational status and result of previous learning have been so interwoven that maturation and learning cannot be separated, so a new term "Readiness" has been coined by the psychologists. Readiness means, that child is capable of successfully mastering the learning activity and this appears to be the most appropriate time to introduce a new experience.

The elementary school child's development in different abilities makes provision for more learning. This versatility increase with increase in age allows the child to adjust with complex environment outside the home. But this greater latitude in learning raises a problem also that what learning experience will best promote the immediate and long term adjustment of the children to the demands of our Pakistani society.

4. ACTIVITIES

1. Select 10 students of your class, locate maturational differences among them.
2. Observe the students during recess. Find the events where you think that achievement is maturation based.
3.

5. EXERCISE

Q. No. 1 Why Maturation is an important variable for psychological study?

Q. No. 2 "Training in any particular activity before the neural mechanisms have reached a certain state of readiness is futile". Discuss.

Q. No. 3 Practice is relatively more effective in certain types of activities when it occurs at high level of maturational level. Why? Enrich your answer with examples.

Q. No. 4 Among development psychologists jean piaget has influenced the learning process the most. Write down the implications of his stage development theory on designing teaching with examples.

Q. No. 5 Differentiate between genotype and phenotype.

6. BIBLOGRAPHY

Bloom, B.S. et-al. (1956). Texanomy of Educational Objectives Handbook: Cognitive Domain, New York, McKay

Clifford, M.M. (1981). Practicing Educational Psychology Boston. Houghton, Mifflin Co.

Drew, C.j. et-al. (1986). Mental Retardation: A Life Cycle Approach Third edition, Columbos, Merrill Publishing Company

Groom, H. (ed). (1983). Manual on Terminology and Classification in Mental Retardation. Washingtion D.C American Association on Mental Deficiency.

Hussen, P.H.et. (1984). Child Development and Personality, sixth edition. Harpr & Row Publishers.

Joyce, B and Weil. (1986). Models of Teaching, 3rd edit. Engle-wood M.Cliffs N.J. Prenctice – Hall.

Kirk, S.A. and Gallagher, j.j. (1986). Educating Exceptional Children, Fifth edition. Boston. Houghton, Mifflin Company.

Marlan, S.C. (1972). Education of Gifted and Talented Washington, D.C., U.S. Printing Office

Messick, S. (1984). The Nature of Cognitive Styles; Problems and Promise in Educational Practice. Educational Psychologiest.

Reigeluth, C.M (ed). (1983). Instructional Design Theories and Models: An Overview of Thier Current Status. Hillsdley N.J; Elbaum

Ripple, E.R. et-al. (1982). Human Development. Boston. Houghton, Mifflin Company.

Slavin, R.E. (1994). Educational Psychology, Fourth edit. Boston: Allyn adn Bacon.

Skpungin, S. (ed). (1981). Guide Lines for Public School Programme Serving Vissually Handicapped Children Second edition. New York. American Foundation for Blind.

Stanley, J, (1979). Identifying and Nurturing the intellectually Gifted in George, W. et-al, Educating the Gifted: Acceleration and Enrichment. Baltimore: John Hopkins University Press.

Stein, M..K. et-al. Instructional Issues for Teaching Students at Risk in R.E. Slavin, N.L. et al. (Eds) (1994). Effective Programmes for Students at Risk, Boston. Allyn & Bacon.

Thorndike, E.L et-al. Intelligence and its Measurement: A Symposium in Tylar, K.E. (1969). Intelligence: Some Recurring Issues. New York: Van Nostrand Reinhold Company.

Wilson, John, A.R Et-al. (1974). Psychological Foundations of Learning and Teaching. New Youk. McGraw-Hill Book Company.

Woolfolk, A.E. & Nicolich, L.M. (1980). Educational Psychology for Teachers. Newjersey. Prentice-Hall. Englewood.

Worell, Juchith & Stilwell, W.E. (1981). Psychology for Teacher and Students, McGraw-Hill Company.