

Psychological foundations of education - I
 Probable Answers

Section A

- (i) Contents of curriculum should be such ~~that~~ which could apply in everyday life / Emphasis of education & tchg methods should not be on the subject matter but on the needs of the students / develop a variety of new methods mainly based on scientific enquiry / Introduction of certain valuable techniques & devices like questionnaire, inventory, mental tests & various other means for objective description of behaviour / The study & problems of individual, normal as well as abnormal, were incorporated.
- (ii) The experimental method fails to study behaviour in natural conditions as may be possible through natural observation / we cannot ^{always} control the independent & intervening variable. Therefore, it is not always possible to create the desired conditions in the laboratory. / It is also debatable whether experimental results obtained from animals or birds are applicable to human beings at all. / All problems of psychology cannot be studied by this method. / The dynamic nature & unpredictability of human behaviour does not always allow independent variable to lead to change in the independent variable. / It is costly & time consuming method.
- (iii) The individual responds positively to authority only if he agrees with the principles upon which the demands of authority are based. He begins to think in rational terms, valuing the rights of human beings & the welfare of society. / The decisions of individual are now based upon his conscience & the belief in universal principles of respect, justice & equality.
- (iv) To understand one's intelligence as the function of one's ability to adopt or adjust to one's environment. / To provide a suitable framework of the learning experiences in view of cognitive development of children & the needs of society / To acquaint us with the thought processes of children at a particular level of their maturation or chronological age; / To emphasize the organization of optimal

Conditions for an individual's learning and development in the light of the processes of assimilation, accommodation & equilibrium. To stress the importance of variety of aid material other than verbal communication & concrete objects involving useful symbolic expressions and To emphasize the need for tailoring the education of a child according to the level of functioning of his cognitive structure.

(v) (a) Learning is considered as an active & dynamic process. (b) The learner is purposive, and interacting within the field of his/her goals (c) It is the most suited for concept formation, problem solving & other higher mental processes. (d) In this approach the perceptions of the learner are processed through differentiation, generalisation & restructurisation which helps the learner in reacting to the specific cognitive structure to get a clear picture of the environment.

(vi) This theory highlighted the role & importance of purpose in the task of learning. What is to be taught to the child should be purposeful & should lead him towards some clear cut goals and objectives. It emphasized that no learning is wasteful. Attempts at learning are never in vain, although no immediate purpose may appear to be served through such efforts. It clarified that learning is neither an intelligent task in which the organism has to draw a cognitive map of the environment to come out with a proper solution of a problem. A reward or reinforcement is not essential for every step taken toward reaching a goal or learning a particular behaviour. Intervening variable like environmental surroundings, drives, previous learning, age etc. play a major role in influencing the learning process.

(vii) Originality of ideas & expression / Adaptability & a sense of adventure / A high degree of awareness, enthusiasm & concentration / An investigative & curious nature / foresight & ability to take independent decisions / Ability to transfer learning or training from one situation to another / Enthusiasm for novelty of design & even solution of problems / Respect for the opinions of others & acceptance of disagreement & opinions different from one's own.

- (viii) (i) Army beta test: To test intelligence of soldiers who were either illiterate or were not familiar with the English language.
- (ii) Chicago non-verbal test: useful for young children aged 12-13 yrs.
- (iii) Raven's progressive matrices test: To evaluate subjects' ability
- (a) to see the relationship between geometric figures or design and
 - (b) to perceive the structure of a design in order to select the appropriate part for completion of each pattern.

(ix) Heredity & Environment.

- (x) Different children have different personalities, and likewise children have different intelligence and learning styles - some are visual-spatial learners, some auditory learners, some kinesthetic learners and some a combination. By understanding the child's learning personality, we can tailor his environment or teach him tips to help him succeed in school & in life.

SECTION - B

Answer - 2

- (2) Structuralism, functionalism, Behaviorism, Humanism & Psychoanalysis.
- Structuralism was propagated by Wilhelm Wundt. It emphasized the systematic study of mind through the study of its structure by adopting introspection as the main technique. Besides separating psychology from philosophy & metaphysics, this school of thought is notable for introducing introspection as one of the methods for the study of behaviour.
 - Functionalism was initiated by William James. The other notable psychologists were John Dewey, James Angell, E.L. Thorndike and

R.S. Woodworth. It considers the mind to be a recent development, the function of which is to aid man's adjustment to his environment. It also emphasizes that habits are nothing but functions of the nervous system. It has influenced the system of education by advocating the use of functional curricula, methods & techniques of learning and providing scientific methods & techniques for the objective study & description of human behaviour.

Behaviourism was initiated by J.B. Watson. The other notable psychologists are Ivan Pavlov, Tolman, Hull & Skinner. It focuses its attention totally on the overt or observable behaviour for its objective observation & considers environmental forces to be the sole factor in shaping one's personality & influencing one's behaviour. ~~It introduced~~ The techniques of shaping behaviour & behavioural modifications, the use of reinforcement (rewards) in place of punishment & unpleasant experiences, etc, have been the other useful contribution of this school of thought in the field of education.

Humanism: Abraham Maslow, Carl Rogers, Rollo May, Arthur Combs, Gordon Allport & other eminent workers have contributed to its growth. It gives more value to the human being by not considering him merely as a sophisticated machine or a victim of conflict between the ego & the id. It considers him as a purposeful being, capable of adapting himself to his environment & choosing his own course of action in order to achieve the goals which he has selected for himself.

Psychoanalysis propogated by Sigmund Freud has ~~been~~ put forward many new ideas like unconscious & subconscious mind, the concept of repression & catharsis, psycho-sexual development, sex as an urge responsible for all types of behaviour, and psychoanalysis as a method of studying behaviour etc. It has highlighted the role of earlier experiences & the need for better education to the child in the formative years.

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Answer - 3

(3) Piaget stated that in the course of the child's intellectual development, significant changes are brought in his initial cognitive structure. These changes are the result of maturation, the process of natural growth, and the experiences like interaction with the physical & social environment involving the processes of assimilation, accommodation & equilibrium. The constant organisation or evolution of mental structure, although an individual phenomenon, takes place in all children in a particular order involving definite stages of intellectual development, viz., the sensori-motor stage, pre-operational stage, concrete operations stage & operation stage.

- **Sensori-motor stage**: Infants learn & develop sensori-motor skills by manipulating objects in his environment.
- **Pre-operational stage**: 2 to 7 yrs. The child begins to acquire vocabulary with which he represents objects & experiences he perceives. The child can extract concepts from experience & can manipulate objects in his mind.
- **Concrete operation**: 7 to 12 yrs. The child begins to think logically & rationally about problems which he faces.
- **Formal operation**: Begins from 12 yrs & continue till the end of adolescence. The adolescent can think, reason & analyse beyond the realm of concrete experience. He can form opinion about abstract concepts like love, honour, truth & justice.

Bruner's Theory:

Child expresses their experience mentally through three modes

(i) Enactive (ii) Iconic (iii) & Symbolic.

- (i) **Enactive**: the child shows his experience through action.
- (ii) **Iconic**: The child forms some images & show his experience.
- (iii) **Symbolic**: the child uses a language to show his experience

Differences:

- Bruner gave more important to language in cognitive dev.
- Piaget gave more important to maturation & experience in cognitive dev.

Answer - 4

(4) The theory of trial & error learning propagated by Thorndike emphasises that we learn through a trial & error mechanism. In trying to learn a correct behaviour, one tries hard in so many ways & may commit so many errors before striking upon a chance success. On subsequent trials we may learn to avoid the mistakes, repeat the correct moves & finally learn the proper way. ~~Thorndike also propagated certain important~~ Some useful implications are:

- (a) If one wants to learn something, one should prepare oneself for it by first understanding fully its importance. In order to teach effectively, we must try to prepare the learner by bringing the mechanism of motivation into play. (b) Whatever we want to learn or teach, we must first identify the aspects which are to be remembered & those which may be forgotten. After this, we may try to strengthen the links or connections between the stimuli and responses of those things which are to be remembered, through repetition, drill & reward. For forgetting, the connections should be weakened through disuse & unpleasant results. (c) What is being taught or learnt at any one time should be linked with the past experiences & learning on the one hand & with the future learning on the other, in order to benefit from the mechanism of association, connection or bonds in the process of learning. (d) The learner should try to see the similarities & dissimilarities between the different kinds of responses to stimuli & by comparison & contrast try to apply the learning from one situation to another similar situations. (e) The learner should be encouraged to do his task ~~is~~ independently. He must try various solutions of the problem before arriving at the correct one. But in every case he should be careful not to waste his time & energy by proceeding blindly & repeating his mistakes.

Answer 5

5. Research findings & observations have demonstrated that there is no positive correlation between creativity & intelligence. One is not the essential or necessary prerequisite of the other. Those found scoring high on intelligence tests may demonstrate little or no signs of creativity whereas individuals performing poorly in intelligence tests may sometimes create something very original.

Taking a consolidated view of the researches conducted on this issue, it is concluded that although intelligence & the creativity component of one's personality can function independently, a certain minimum level of intelligence is a necessary precondition for successful creative expression. Were it not so a person of below average mental ability like a moron or idiot could also be creative; but in actual life situations we hardly come across any such instances. Conversely, although creative people generally tend to be relatively intelligent, beyond a certain level, a higher I.Q. does not necessarily predict creativity. As Kitano & Kirby (1986) state: "an individual can be extremely bright but uncreative, or highly creative but not necessarily intellectually gifted." Therefore, no clear relationship has been seen to exist between intelligence & creativity.

The school environment helps in fostering creativity by following practices:

- (i) Freedom to respond
- (ii) Opportunity forego involvement
- (iii) Encouraging originality & flexibility
- (iv) Removal of hesitation & fear
- (v) Providing appropriate opportunities & atmosphere for creative expression
- (vi) Developing healthy habits among children
- (vii) Using the creative ~~res~~ resources of the community
- (viii) A avoidance of blocks to creative thinking
- (ix) Proper organisation of the curriculum
- (x) Reform in evaluation system
- (xi) Use of special techniques for fostering creativity - (a) Brainstorming (b) Use of teaching models
- (c) Use of gaming technique
- (xii) Teaching by example.

Answer : 6

(6) Individual differences in attitudes are observed in students. Maturity levels, planned & random experiences, physical surroundings, extent of warmth exhibited, democracy and indulgence in home environment, schooling, playmates & exposure to media are not the same for every one. Similarly, the persons a child desires to be liked & whose attitudes he tends to internalise, or the persons he dislikes & whose attitudes he generally rejects would not be the same for all individuals. An object liked by one may be disliked by others & vice-versa. Attitude towards cheating & stealing is different in children of different ages. Ten year old children may have strong attitudes against deceiving or tricking & stealing. The sixteen year old, depending upon the background & the level of intelligence, frown upon stealing but may show some acceptance for cheating particularly in exam situation. Adolescents differ in their attitude towards authority depending on the satisfaction or figures of dissatisfaction they derived during the course of their interaction with them. Adolescence is generally marked by a rebellious attitude towards authority whereas childhood is marked by confirming attitude towards authority.

Clear-cut differences in interests of children and adolescents are discernible in sports and games, school activities and various areas of subject matter at the school level & in almost in every classroom. Their interests range from very low to very high. Infants present evidence of interest in the form of attention. During first two or three years exploratory activities interest the child. Nursery school children between 2-5 years of age are interested in locomotor toys. This interest in movement seems to increase with age for boys & show a decline for girls. By the age of five or six patterns of likes & dislikes are not the same. Marked sex differences are observed in what children like or dislike. Boys dislike anything called inappropriate. Girls avoid

physical activities, and seldom exhibit aggression. Sexuality during childhood & sexuality after puberty differs markedly. Little children play with children of both sexes. Pre-school group turns to unusual ~~fr~~ friendships. Five to eight years children feel no embarrassment in playing with other sex nor do they feel embarrassed in getting physical affection from adults.

Answer 7

7. Intelligence quotient (I.Q.) represents the degree of intelligence possessed by an individual. Mental age represents the level of mental maturity or intelligence, whereas I.Q. represents the rate of growth of intelligence. Since it indicates the rate of mental growth, it is regarded as an index of brightness. There is a formula to compute the I.Q. of an individual. It is obtained by dividing the mental age by the chronological age of a child & multiplying it by 100.

$$I.Q. = \frac{M.A.}{C.A.} \times 100$$

Intelligence cannot be measured in the same way as we measure a piece of cloth or the temperature of our body. It can only be assessed. This assessment is carried out through intelligence tests categorised as individual and group tests.

Verbal or language tests: In these the subjects make use of language in which the instructions are given in words, written, oral or both. The individuals being tested are required to use language, verbal or written for their responses. The test content is loaded with verbal material which may include varieties of the items which are;

- Vocabulary tests: To give the meaning of words or phrases.
- Memory tests: These are designed to test the subjects'

immediate & long-term memory, and include recall & recognition type of items.

- Comprehension tests: The subject is tested for the ability to grasp, understand & react to a given situation
- Information tests: The subject is tested on his knowledge about the things around him by means of these tests.
- Reasoning tests: The subject is asked to provide answers which demonstrate his ability to reason — logically, analytically, synthetically, inductively or deductively
- Association tests: Through these test items the subject is tested for his ability to point out the similarities or dissimilarities between two or more concepts or objects.

• Individual Verbal Test:

- Binet-simon test

• The Group Verbal Intelligence Tests:

- Army alpha test
- Army general Classification test
- C.I.E. Verbal group test of intelligence
- The group test of intelligence
- Prayag Mehta's group intelligence test
- General mental ability test
- Group verbal intelligence test
- Samuhik budhi Pariksha (Hindi)
- Samuhik budhi ki Jaanch (Hindi)

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