

## INTELLIGENCE AND CREATIVITY

### Introduction:

1. Success in school and colleges and in one's own procession social adjustment, possession of general information etc. are part of the meaning commonly associated with the concept "intelligence.

### Nature of intelligence:

- Psychologists have suggested various points of view regarding the nature of intelligence.

#### 1. Ability for adjustment or adaption:

- According to this point of view intelligence is the general mental adaptability for new problems and new situation of life.

#### 2. Ability to learn :

- This view point emphasizes the ability to learn i.e. one's intelligences a matter of the extent to which he is educable.

#### 3. Ability to carry on abstract thinking:

- Here emphasis is laid on the on the effective use of concepts and symbols in dealing with situations, especially presenting a problem to be solved through the use of verbal and numerical symbols.

### Distribution of Intelligence:

- Psychologists say that intelligence (measured I.Q.) is distributed normally in a large random selection of human population. That is, the distribution of intelligence, in the population is observed to be in the following proportion.

I.Q. Range	Classification	Percentage in population
Above 140	Genius	1
120-139	Gifted/ very Superior	5
110-119	Superior	14
90-109	Average or Normal	60
80-89	Backward children or slow Learner	14

70-79	Borderline	5
50-69	Morons	
25-49	Imbeciles	1
0-24	idiots	
		100

- According to standard-Binet test very superior is 1% high superior-11%, high average-18% average-46%, low average-15%, borderline-6%, and retarded-3%.

### Theories of Intelligence:

#### Unitary theory or Monarchic theory:

- Binet, Terman and some other classical psychologists supported this view.
- If one has a fund of intelligence he can utilise it to any area of his life, the intelligence of a person gets stamped in all what he thinks and acts.
- A genius mathematical professor may be absent minded or socially ill-adjusted.

#### Spearman's two factor theory:

- Spearman proposed his two factor theory of intelligence in 1904
- According to this theory every different mental ability involves a general factor (G), which it shares with all other mental activities and a specific factor (S), which it shares with none.

G factor is largely innate and accounts for success in all activities. It is constant in the sense that for any individual it remains the same of all the correlated activities. It Differs from individual to individual. But success in any specialized field very much depends on the concerned specific factor which is essentially learnt.

#### Thorndike's multifactor theory:

- Thorndike was an associationist and he opposed the theory of general intelligence (uniform theory).

- According to the theory, intelligence is said to be constituted of a multitude of separate factors or elements, each being a minute element or ability (and hence this theory is known as atomistic theory of intelligence).
- A mental act according to this theory involves a number of these minute elements operating together. If any two tasks are correlated, the degree of correlation is due to the common elements involved in the two tasks.
- Thorndike distinguished four attributes of intelligence
  - a. Level: This refers to the difficulty of a task that can be solved.
  - b. Range: This refers to the number of tasks at any given degree of difficulty that we can solve. Theoretically an individual possessing a given level of intelligence.
  - c. Area: It refers to the total number of situations at each level to which the individual is able to respond.
  - d. Speed: This is the rapidity with which an individual can respond to items. Speed and altitude are positively related. Speed is much closely bound up with attitude are other attributes.

#### **Thurstone's group-factor theory:**

- Group factor has been advocated by Thurstone and his associates.
- Certain mental operations have in common a 'primary' factor, which, gives them psychological and function unity and which differentiates them from other mental operation.
- These mental operations, then, constitute a group. A second OF mental operations has its own unifying 'Primary factor'; a third group has a third, and so on Each of these primary factors is said to be relatively independent of others.
- Thurstone and his colleagues concluded that seven primary Mental Abilities (PMA) emerged clearly enough for identification and used in test design
- They are
- Space visualization: The ability to visualize geometric pattern in space.
- Perceptual speed: Quick and accurate noting of details.
- Numerical ability: Quickness and accuracy in simple arithmetic operations.

- Verbal comprehension: Knowledge of meaning and relationship of words.
- Word fluency: Ability to think and use many isolated words at a rapid rate.
- Rote memory: Immediate recall of materials Learned.
- Reasoning: Ability to see relationships in situations described in symbols.

### **Guilford's structure of Intellect:**

- Structure of Intellect model is the result of factor analysis conducted by Guilford and his associated in the psychology laboratory at the University of South California in 1966.
- Guilford suggests that mind is composed of atleast three major dimensions- process of operation, material or content, and product.

Six operations: I. cognition, ii. Memory recording, iii. Memory retention, iv. Divergent thinking, v. convergent VI. Evaluation

Five contents: I. Visual content ii. Auditory content iii. Symbolic content iv. Semantic content; and v. Behavioural content

Six products: I. units' ii. Classes' iii. Relations iv. Systems v. transformations, IV. Implications

- Thus according to Guilford, there can be only 180 different mental abilities, as a result of 6 processes operating on any one of the 5 contents to produce any one of the 6 products ( $6*5*6=180$ )

### **Gardner- The theory of Multiple Intelligence:**

- Prof. Howard Gardner of Harvard University of U.S.A in his book "Framer of Mind: The theory of multiple intelligence", has listed eight types of intelligence.
- According to him intelligence as measured at present through the use of intelligence tests, is narrowly conceived.
- Human intelligence is really broad based and of many kinds.
- He proposed eightfold intelligence.

**Linguistic Intelligence:** This represents the verbal ability of an individual.

**Logical mathematical intelligence:** Logical reasoning and numerical skills are included in this category of intelligence.

- The intelligence test which are presently in use to assess the I.Q. Of individuals attempt to measure the above two categories of mental abilities only.

**Spatial Intelligence:** This type of intelligence is largely displayed by sculptors, engineers, architects, draughtsmen, experts in drawing and painting etc.

**Kinesthetic Intelligence:** This type of intelligence is displayed by surgeons, dancers, sportsman, Therapists etc.

**Musical Intelligence:** Musicians, musicologists, and instrumental players like violinist guitarist, pianoist etc. require this type of intelligence to a greater degree.

**Interpersonal Intelligence:** This type of intelligence is highly important for those who mingle and deal with the public like politicians, salesmen, public relations officers, receptions, business executives etc. requiring the skill to persuade and win over people.

**Intra personal intelligence:** This type of mental abilities is exhibited by planners and strategists.  
**Naturalist intelligence:** This category of meant for poets, horticulturalists, environmental cleanliness and ecologists.

**Constancy of I.Q:**

- Mental age gives us a measure of the level of intelligence development while I.Q is an index of intelligence in comparison to others of the same age. Thus I.Q. is an index of relative brightness.