



1. How do psychologists characterize and define intelligence?

Ans: Psychological notion of intelligence is quite different from the common sense notion of intelligence.

Generally people saw intelligence as mental alertness, ready art, quickness in learning and ability to understand relationships. Oxford dictionary explained intelligence as the power of perceiving, learning understanding and knowing.

Accordingly Alfred Binet also used these attributes and defined intelligence as ability to judge well, understand well and reason well. Later Wechsler gave a comprehensive definition in terms of its functionality, i.e., its value for adaptation to environment. He defined intelligence as "the global and aggregate capacity of an individual to think rationally, act purposefully and to deal effectively with his/her environment."

Present day psychologists such as Gardner and Sternberg emphasized that "Intelligent individual not only adapts to the environment, but actively modifies or shapes it."

Sternberg views intelligence as "the ability to adapt, to shape and select environment to accomplish one's goals and those of one's society and culture."

2. What extent is our intelligence the result of heredity (nature) and environment (nurture)? Discuss. (CBSE 2014)

Ans:

(i) Whether intelligence is evolved or it is developed due to the environment, is a question of debate.

(ii) Lot of studies have been done to determine the role of nature and nurture.

(iii) Here we will discuss the controversy with the help of various twin studies, adoption studies and environmental studies.

On the basis of twin studies co-relation results are as follows:

(i) Identical twins reared together correlate 0.90

(ii) Identical twins reported early in childhood and reared in different environments correlate 0.72

(iii) Fraternal twins reared together correlate 0.60

(iv) Siblings reared together correlate 0.50

(v) Siblings reared apart correlate 0.25

Adoption Studies before the Age of 6-7 Years

These studies of adopted children show that children's intelligence is more similar to their biological parents.

These studies provide evidence that intelligence is determined because of nature.

Adoption Studies after the Age of 6-7 Years

According to these studies as children grew older tends to more closer to that of their adoptive parents.

Environmental Studies

Evidence for the influence of environment (Nurture) on the basis of Twin studies.

(i) The intelligence score of twins reared apart as they grew older, tends to more closer to that of their adoptive parents.

(ii) On the basis of differences in environment, children from disadvantaged homes adopted into families with higher, socio-economic status exhibit an increase in their intelligence scores.

(iii) Environmental deprivation lowers intelligence. Factors such as nutrition, good family background and quality schooling increase

growth rate of intelligence.

(iv) There is general consensus among psychologists that intelligence is a product of complex interaction of heredity (Nature) and environment (Nurture).

(v) Heredity provides the potentials and sets a range of growth whereas environment facilitates the development of intelligence.

3. Explain briefly the multiple intelligences identified by Gardner. (CBSE 2008)

Ans: Gardner's theory based on information processing approaches functions on three basic principles:

(i) Intelligence is not a single entity, there exist multiple intelligences.

(ii) The intelligences are independent from each other.

(iii) Different types of intelligences work together to provide a solution of problem. Gardner has so far proposed eight intelligences, however all individuals do not possess them in equal proportion. The particular situation or the context decides the prominence of one type of intelligence over the others.

Following are the eight types of intelligence:

1. Linguistic: This is related to reading, writing, listening, talking, understanding etc. Poets exhibit this ability better than others.

2. Logical-Mathematical: This type of intelligence deals with abstract reasoning and manipulation of symbols involved in numerical problems. It is exhibited in scientific work.

3. Spatial: This type of intelligence is involved in perceiving third dimension formation of images. It is used while navigating in space, forming, transforming and using mental images. Sailors, engineers, surgeons, pilots, care drivers, sculptors and painters have highly developed spatial intelligence.

4. Musical: Persons with musical intelligence show sensitivity to pitch and tone required for singing, playing and instrument, composing and appreciating music etc.

5. Bodily Kinesthetic: It requires the skills and dexterity for fine coordinated motor movements, such as those required for dancing, athletics, surgery, craft making etc.

6. Inter-personal: It requires understanding of motives, feelings and behaviours of other people. sales people, politicians, teachers, clinicians and religious readers have high degree of inter-personal intelligence.

7. Intra-personal: It is related to understanding one's self and developing a sense of identity, e.g., philosophers and spiritual leaders.

8. Naturalistic: It is related to recognizing the flora and fauna, i.e., natural world and making a distinction in the natural world. It is more possessed by hunters, farmers, tourists, students of biological sciences etc.

4. How does the Triarchic theory help us to understand intelligence? (CBSE 2012-13)

Ans:

1. Robert J. Sternberg proposes a theory of intelligence based on information

processing approach in 1985 known as the Triarchic theory of intelligence.

2. According to Sternberg, intelligence is an ability to adapt, to shape and select environment to accomplish ones goals and those of ones society and culture.

3. This theory attempts to understand the cognitive processes involved in problem solving.

4. According to him there are three types of intelligences:

(i) Componential intelligence (Analytical): This dimension specifies the cognitive processes that underlie an intelligent behaviour.

This dimension serves three different functions:

(a) Knowledge acquisition components: These are the processes used in learning, encoding, combining and comparing information.

(b) Metacomponents: 'Meta' means higher. These are executive processes. They control monitor and evaluate cognitive processing.

(c) Performance components: These components execute strategies prepared by metacomponents to perform a task. For example, While studying students plan the lesson chapterwise, they make schedules, categorize the learning material and do integrate the information to comprehend well.

(ii) Experiential intelligence (Creative): This dimension specifies how experiences effect intelligence and how intelligence effects a person's experiences.

(a) Experiential intelligence refers to an individual's ability to make use of one's past experiences to deal with novel situations creatively and effectively.

(b) This intelligence is mostly high among scientists and creative people.

(c) For example if a person is trapped in a room, he finds out a way of coming out of the room using rope or ladder etc. in a creative way. He had some knowledge of getting out from this situation by watching out a movie few years back.

(iii) Contextual intelligence (Practical): This dimension specifies the ability to deal with environmental demands on daily basis.

(a) It is individual's ability to make use of his/her potential to deal with day-to-day life.

(b) It may be called street smartness or 'business sense'.

(c) People high in this ability are successful in life.

It deals with the ways people handle effectively their environmental demands and adapt to different contexts with available resources.

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