



## Unit – IV

### Lesson - 1

# INTELLIGENCE AND CREATIVITY

# INTRODUCTION TO INTELLIGENCE AND CREATIVITY

## Content:

- ◉ Education plays a vital role in shaping society, enhancing quality of life through the acquisition of knowledge, skills, values, creativity, and intelligence.
- ◉ Creativity, as an essential component of education, is the ability to think and imagine in new ways, ultimately enhancing all aspects of life.
- ◉ This study explores the sum of **fluency, flexibility, and originality** as the essence of creativity.

**Picture Puzzle IQ Test: Only Keen Eyes Can Spot The Number 98 In 5 Seconds!**

[illegible]



**Johnny's Father has five sons.**



**1. Zaze**

**2. Zeze**

**3. Zize**

**4. Zoze**

**5. ?????**



**What is the name of the 5th son?**

$$\text{Orange} + \text{Apple} + \text{Orange} = 15$$

$$\text{Apple} + \text{Orange} + \text{Apple} = 24$$

$$\text{Apple} + \text{Apple} + \text{Apple} = 23$$

$$\text{Apple} \times \text{Orange} + \text{Apple} = ?$$



iQ\_Test



<https://iquestionss.blogspot.com>



# INTRODUCTION TO INTELLIGENCE AND CREATIVITY

## Key Concepts Covered:

### Intelligence:

- ◉ Definitions, nature, and characteristics
- ◉ Theories of Intelligence:
- ◉ Two-factor theory
- ◉ Thurston's Group factors
- ◉ Thorndike's Multi-factor theory
- ◉ Guilford's Structure of Intellect
- ◉ Gardner's Multiple Intelligence

### Creativity:

- ◉ Factors,
- ◉ processes, and
- ◉ strategies to foster creative thinking

# HOWARD GARDNER'S EIGHT INTELLIGENCES

Aptitude	Example
1. Linguistic (“word smart”)	Toni Morrison, writer
2. Logical-mathematical (“number smart”)	Albert Einstein, scientist
3. Musical (“music smart”)	Wynton Marsalis, musician
4. Spatial (“art smart”)	Frida Kahlo, artist
5. Bodily-kinesthetic (“body smart”)	Tiger Woods, athlete
6. Intrapersonal (“self smart”)	Anna Freud, psychoanalyst
7. Interpersonal (“people smart”)	Mahatma Gandhi, leader
8. Naturalist (“nature smart”)	John Audubon, naturalist

# INTELLIGENCE: MEANING, DEFINITIONS AND TYPES

## Challenges in Measuring Intelligence:

- ◉ Intelligence cannot be directly measured, unlike physical traits like height or weight. It is evaluated indirectly by studying the intelligent actions people perform.

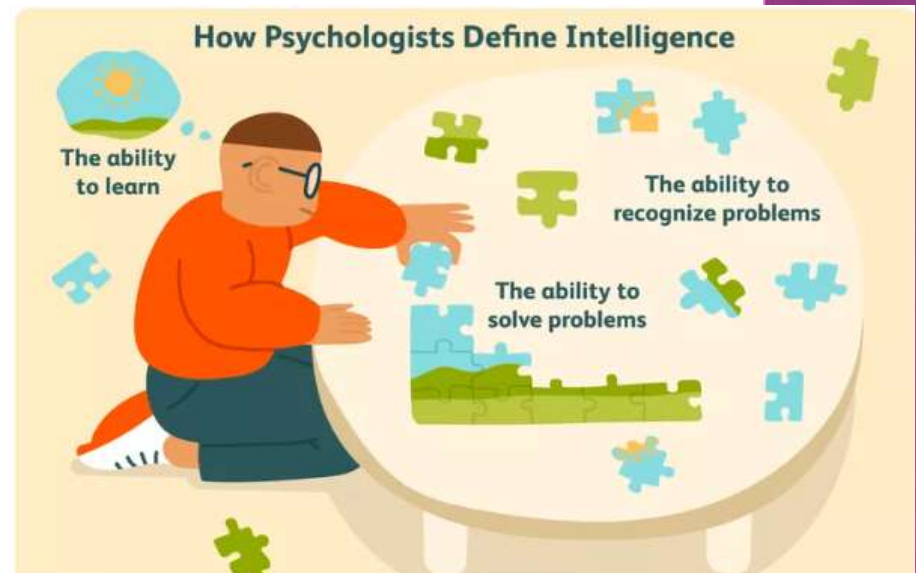
## Components of Intelligence:

- ◉ Intelligence shares similarities with memory and thinking but is distinguished by individual differences. These differences are assessed through intelligence tests to measure reasoning abilities.

## Historical Perspectives on Intelligence:

Early theories focused on three main themes:

- ◉ Capacity to learn
- ◉ The ability to recognize problems
- ◉ The ability to solve problem





# INTELLIGENCE: MEANING, DEFINITIONS AND TYPES

## Definitions of intelligence's:

- ⊙ ‘Intelligence is the capacity for knowledge, and knowledge possessed.’ -**Henmon 1921**)
- ⊙ ‘Intelligence is the capacity to acquire capacity.’ -**Woodrow 1921**
- ⊙ Intelligence is the ability to adjust adequately to new and different situations – **Cruz**
- ⊙ Intelligence is the capacity **to think well, to judge well and to be self-critical** – **Alfred Binet**

# INTELLIGENCE: MEANING, DEFINITIONS AND TYPES

## Components of Intelligence

- ◉ **Adaptability:**

Intelligence involves modifying and adjusting behaviors to effectively accomplish new tasks.

- ◉ **Learning Ability:**

Intelligent individuals tend to learn information more quickly and easily than those with lower intelligence.

- ◉ **Use of Prior Knowledge:**

Intelligence includes the ability to use existing knowledge to analyze and understand new situations.

- ◉ **Complex Interaction:**

Intelligence results from the coordination of various thinking and reasoning processes.

- ◉ **Cultural Specificity:**

What is considered intelligent behavior may vary across different cultures.

# INTELLIGENCE: MEANING, DEFINITIONS AND TYPES

## Types of Intelligence

Gardner analyzed personalities and came to a classification and concept of multiple intelligences. He refers to these intelligences as ways of knowing and understanding oneself and the world surrounding us and additionally helps create conditions to change it. The eight intelligences include:



**Visual-Spatial**



**Linguistic-Verbal**



**Interpersonal**



**Intrapersonal**



**Logical-Mathematical**



**Musical**



**Bodily-Kinesthetic**



**Naturalistic**

# INTELLIGENCE: MEANING, DEFINITIONS AND TYPES

## Types of Intelligence

Gardner analyzed personalities and came to a classification and concept of multiple intelligences. He refers to these intelligences as ways of knowing and understanding oneself and the world surrounding us and additionally helps create conditions to change it. The eight intelligences include:

### 1. Musical Intelligence:

- ⊙ These children might often be quietly singing, humming and drumming. They are often discriminating listeners.
- ⊙ They might hear sounds that others miss. They have an ear for compositions and harmony.
- ⊙ This mental modality is not just a talent, but also a full intelligence.
- ⊙ The musical mind grasps subtlety and complexity.
- ⊙ By means of making music or just hearing it, it analyses moods, meanings and feelings.

### 2. Logical-Mathematical Intelligence:

#### Characteristics:

- ⊙ Easy application of logic and reasoning.
- ⊙ Interest in patterns, relationships, and understanding concepts.
- ⊙ Strong sense of causes and steps to conclusions.

#### Non-Verbal Thinking:

- ⊙ Primarily intuitive, often involving reasoning through numbers, symbols, and patterns.

#### Interests:

- ⊙ Love for brainteasers, strategies, and experiments.
- ⊙ Constant drive to find reasons why.

#### Applications:

- ⊙ Relevant in fields like science, music, sports, politics, and the economy.

# INTELLIGENCE: MEANING, DEFINITIONS AND TYPES

## Types of Intelligence

### 3. Visual/Spatial Intelligence

#### Characteristics:

- ◉ Thinks in pictures and images.
- ◉ Strong in understanding shapes, distances, volume, area, and color.
- ◉ Skilled in three-dimensional thinking.

#### Interests:

- ◉ Enjoys activities like mazes, puzzles, and Lego constructions.
- ◉ Often interested in art and learning techniques to represent what they observe.

#### Applications:

- ◉ Essential for problem solving in fields such as architecture, music, art, math, technology, and engineering.

### 4. Linguistic Intelligence

#### Characteristics:

- ◉ Strong ability in verbal interaction, talking, writing, reading, and storytelling.
- ◉ Proficient in their mother tongue and often interested in poetry, novels, plays, and literature.

#### Language Skills:

- ◉ Second language acquisition comes easily.
- ◉ Often combines language learning with interest in the culture behind the language.

#### Vocabulary & Meaning:

- ◉ Develops a rich vocabulary and enjoys exploring the nuances of meanings.



# INTELLIGENCE: MEANING, DEFINITIONS AND TYPES

## Types of Intelligence

### 5. Interpersonal Intelligence

#### Characteristics:

- ⊙ Strong in social relationships and often leaders among peers.
- ⊙ Skilled in communication and understanding the needs, motivations, emotions, and intentions of others.

#### Key Skills:

- ⊙ Excellent listeners who show empathy.
- ⊙ Effective in decision-making through consensus and valuing others' opinions.

#### Social Engagement:

- ⊙ Talkative and enjoy being socially involved in group activities.

### 6. Intrapersonal Intelligence

#### Characteristics:

- ⊙ Highly aware of their own feelings and have a clear sense of self.
- ⊙ Understand their own values and personal traits.

#### Work Style:

- ⊙ Prefer to function alone and are reflective in thought.
- ⊙ Can appear shy or introverted with less focus on interpersonal and linguistic skills.

#### Self-Motivation:

- ⊙ Often self-motivated and studious.
- ⊙ Capable of examining their own thought processes to arrive at solutions through research and reflective thought.

# INTELLIGENCE: MEANING, DEFINITIONS AND TYPES

## Types of Intelligence

### 7. Bodily-Kinesthetic Intelligence

#### Characteristics:

- ◉ Acquire knowledge through physical involvement and movement.
- ◉ Solve problems and gain insight through hands-on experiences.

#### Key Traits:

- ◉ Often sporty and speedy.
- ◉ Efficient but can be impatient.

#### Learning Style:

- ◉ Learn best through visualization, physical activities, and listening to their 'gut feelings'.

### 8. Naturalistic Intelligence:

#### Characteristics:

- ◉ Feel most comfortable outside and enjoy spending time alone in nature.
- ◉ Keen observation skills and a strong interest in natural phenomena (large and small).






#### Key Skills:

- ◉ Good at analyzing, synthesizing, and organizing patterns within the natural environment.
- ◉ Often skilled as keen researchers with an eye for detail.

#### Emotional Connection:

- ◉ Nature provides a sense of peace of mind at an emotional level.

# GARDNER'S TYPES OF INTELLIGENCE

Intelligence	Examples
 Verbal-Linguistic	Reading comprehension Writing
 Logical-Mathematical	Solving math and logic problems
 Bodily-Kinesthetic	Balance Strength Endurance
 Visual-Spatial	Judging distance Map reading Geometry
 Musical-Rhythmic	Appreciating and creating music Music theory
 Interpersonal	Listening Cooperation Sensitivity to others
 Intrapersonal	Knowledge of self
 Naturalistic	Appreciate nature Ability to work with plants and animals