Intelligence, Problem Solving, and Creativity

- **Defining Intelligence**
  - A set of cognitive skills that includes abstract thinking, reasoning, problem solving, and the ability to acquire knowledge
  - Different theorists add other components to this definition, but they are not uniformly accepted

- **How do we conceptualise intelligence?**
  - **Charles Spearman** – single general capacity (one underlying ability)
  - **G-Factor** – general factor made up of specific components
  - Asks the question, “How intelligent are you?”

- **Theories of Intelligence as Multiple Abilities**
  - **Multiple-Factor Theory of Intelligence** – intelligence consists of several distinct dimensions
  - A single test score cannot accurately reflect a person’s intelligence
  - Asks the question, “How are you intelligent?”
  - Patterns of correlations in clusters
  - G emphasizes the overall correlation
  - Multiple intelligences emphasizes the clusters
  - **Fluid Intelligence** – raw, mental ability, pattern recognition, and abstract reasoning
    - Less dependent upon experience
  - **Crystalized Intelligence** – knowledge from experience, learning, education, and practice
    - Dependent upon experience

- **Gardner’s Multiple Intelligences**
  - At least 8 distinct capacities
  - Different people can have different combinations of strengths
  - Few empirical tests
  - **Linguistic, logical-mathematical, musical, bodily-kinesthetic, spatial, interpersonal, intrapersonal, naturalistic**

- **Early Measures of Intelligence**
  - **Sir Francis Galton** – first to suggest measuring intelligence
  - Measured reaction speed, muscular strength, and sensory acuity

- **“First” Practical Measure of Intelligence**
  - **Alfred Binet (Early 1900s)** – developed a measure for children who would benefit from extra assistance in schools
  - **Two Assumptions:**
    1. Abilities develop with age