

Guided Reading Activity 13-2

Intelligence Testing

For use with textbook pages 348-357

Directions: Recalling the Facts Use the information in your textbook to answer the questions.

1. According to Charles Spearman, what two factors contribute to a person's intelligence? general intelligence + specific mental abilities Verbal or math skills
2. L.L. Thurstone ¹⁹³⁸ proposed that intelligence is composed of seven primary mental abilities. What are they? 1. verbal comprehension 2. numerical ability 3. spatial relations 4. perceptual speed 5. word fluency 6. memory 7. inductive reasoning
3. According to Howard Gardner ¹⁹⁸³, what is body-kinesthetic ability? skill at fine-motor movement such as gem-cutting, surgery and athletics
4. According to Robert Sternberg ¹⁹⁸⁵'s triarchic theory, what kind of thinking is required to deal with a situation you have never before encountered? creative thought
5. What type of intelligence includes the ability to use emotions while thinking? emotional intelligence
6. Why was the first IQ test developed? Paris school authorities asked Alfred Binet to devise a means to separate "slow learners" into a better learning class
7. What did Alfred Binet use as the basis for selecting test items? assumed that intelligence increased with age
8. What was Binet's definition of a "slow learner"? learner whose mental age was less than his/her chronological age
9. How was IQ originally computed? $\frac{\text{child's mental age}}{\text{chronological age}} \times 100 = \text{I.Q.}$
10. In general, the way norms are established for intelligence tests, most people score near what number? 100
11. What issues are at the heart of the debate about IQ testing? whether genetic differences, environmental inequalities, or cultural bias affect IQ scores
12. What did studies of identical twins separated at birth show about genes and intelligence? genetics does affect IQ.
13. What might cause cultural bias on an intelligence test? the wording used may be more familiar to one group than another

I.Q. = Intelligence Quotient

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Theories Of Intelligence

Two-Factor Theory – Charles Spearman (1904)

g = General Intelligence (problem-solving)

s = Specific Mental Abilities (verbal, math skills)

Seven Primary Mental Abilities Theory – L.L. Thurstone (1938)

1. Verbal Comprehension - ability to understand the meaning of words, concepts, and ideas
2. Word Fluency - ability to use words quickly and fluently (rhyming, anagrams, cross-words)
3. Numerical Ability - ability to use numbers quickly to compute answers to problems
4. Spatial Relations - ability to visualize and manipulate patterns and forms in space
5. Perceptual Speed - ability to recognize perceptual qualities and compare / contrast stimuli
6. Memory - ability to recall information (lists, formulas, definitions)
7. Inductive Reasoning - ability to derive general rules and principles from presented information

Multiple Intelligences Theory – Howard Gardner (1983)

1. Logical-Mathematical
- ability to work with numbers and logic (*Accountant, Scientist*)
2. Linguistic
- ability to utilize language (*Journalist, Writer*)
3. Musical
- ability to perform and compose music (*Composers, Musicians*)
4. Spatial
- ability to comprehend shapes and images in three dimensions (*Navigator, Artist*)
5. Bodily-Kinesthetic
- ability to control movement, balance, agility, and grace (*Dancers, Athletes*)
6. Interpersonal
- ability to interact and understand others and interpret their behavior (*Pastor, Politician*)
7. Intrapersonal
- ability to understand own capabilities and strengths / weaknesses (*Therapist, Social Worker*)

Triarchic Theory – Robert Sternberg (1985)

1. Analytical Thinking – "Book Smarts" – ability to solve problems
2. Creative Thinking – "Creativity" – ability to deal with new situations
3. Practical Thinking – "Street Smarts" – ability to understand one's environment