

**GUILFORD'S STRUCTURE OF  
INTELLECT MODEL OF INTELLIGENCE  
(SOI) (1967)**

Mitika kanwar

# J.P GUILFORD'S THEORY OF INTELLIGENCE

- Joy Paul Guilford (1967) developed his theory of intelligence by watching his young students in schools
- Guilford believed that intelligence is measured through a combined system of analytical abilities, not a hierarchical structure of innate problem solving.
- His observation led him to the realization that intelligence was not just a global construct
- He said that there were more than seven primary intellectual abilities proposed by Thurstone
- Individual's brain structures are able to process different types of information in different ways
- Intelligence depends upon how a person uniquely processes information

- For ex. Some people are good at breaking down mathematical problems into units
- While others are good at recognizing symbols with the help of their memory
- He discovered 25 different factors that are involved in intelligence
- 3 mental abilities – operations, contents and products
- OPERATIONS ARE GENERAL INTELLECTUAL PROCESSES REQUIRED BY A TEST
- CONTENTS ARE AREAS ON WHICH OPERATIONS ARE APPLIED. EX. MATERIALS PRESENTED TO THE EXAMINEES
- PRODUCTS ARE THE RESULT OF APPLYING OPERATIONS ON CONTENTS (FINAL OUTCOME AFTER THE APPLICATION OF OUR INTELLECTUAL ABILITIES)

# 5 OPERATIONS

- Cognition – the ability to understand, comprehend, discover and become aware of information
- Memory - Memory recording – ability to store / encode information; Memory retention – ability to recall information
- Divergent production – ability to generate multiple solutions to a problem (creativity)
- Convergent production – ability to arrive at one single solution to a problem (problem solving)
- Evaluation – ability to judge the information critically whether its correct or incorrect

# 4 CONTENTS

- FIGURAL - Concrete, real world information, tangible objects, things in the environment - It includes
  - A. visual: information presented to the eyes,
  - B. auditory: information presented to the ears, and
  - C. kinesthetic: information perceived through one's own physical actions

# 4 CONTENTS

- Symbolic - Information perceived as symbols or signs that stand for something, e.g., Arabic numerals, the letters of an alphabet, or musical and scientific notations
- Semantic – words, verbal meanings, ideas
- Behavioral – information regarding people's behavior and actions (but this aspect received less attention by Guilford). Ability to understand the mental state and behavior of other people.

# 6 PRODUCTS

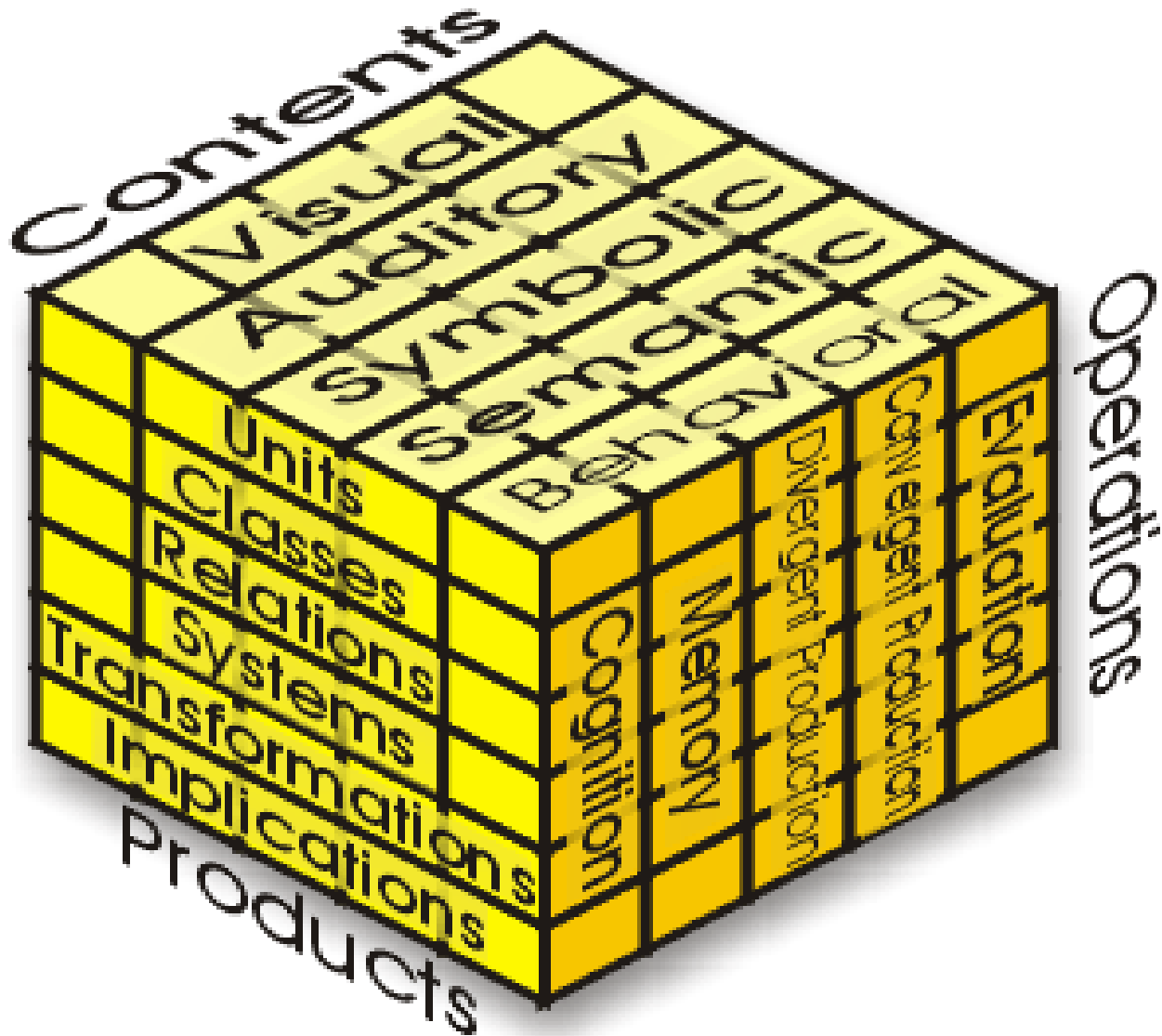
- UNITS – single items of knowledge, e.g. one number, one word, etc
- CLASSES – sets of units sharing common information e.g., two words or sentences combined
- RELATIONS – connection between two items such as two notes “Sa” and “Pa”. Example- Musicians use knowledge of different notes to create harmonies

# 6 PRODUCTS

- SYSTEM – Three or more items forming a whole, such as a full song or a melody
- TRANSFORMATION – Change in an item of information, such as correction of spellings/correction of sentences, modification etc; transforming previously thought of idea into a new idea.
- IMPLICATION – deriving a meaning, drawing a conclusion, or predicting.



- In total, Guilford identified 5 x 5 x 6 or 150 factors of intellect
- Each combination of an operation (e.g. memory), a content (e.g., symbolic), and a product (e.g., units) represents a different factor of intellect.
- Guilford claimed to have verified over 100 of these factors in his research.



- Prior to Guilford emphasis was laid on **convergent production** – construction of single correct answer to a stimulus
  - But Guilford popularized **divergent production** – creation of numerous appropriate answers to a single stimulus situation which is also essential in intelligent behavior (also known as creative thinking)
- e.x. of divergent production – “list as many possible uses of scissors”

# QUIZ TIME! ANSWER THESE

- A clinical psychologist has to treat a patient with hydrophobia. What operations, contents and products will be involved in this intellectual process?

# ANSWER

- Psychologist would be required to apply the mental operations of **cognition** (understanding the client's behavior) and **divergent production** (generating different activities, exercises to treat his phobia)
- Content on which these operations would be performed will be **BEHAVIORAL**
- Final product will be **TRANSFORMATION**

# QUIZ TIME! ANSWER THESE

- You are required to watch the news and give your own input on what do you think about the current hot topic or debate! Which operations, contents and products will be involved in this intellectual process?

# ANSWER

- Operation – evaluation (critical thinking)
- Content – auditory and visual (news channels)
- Product – implication or inferences