



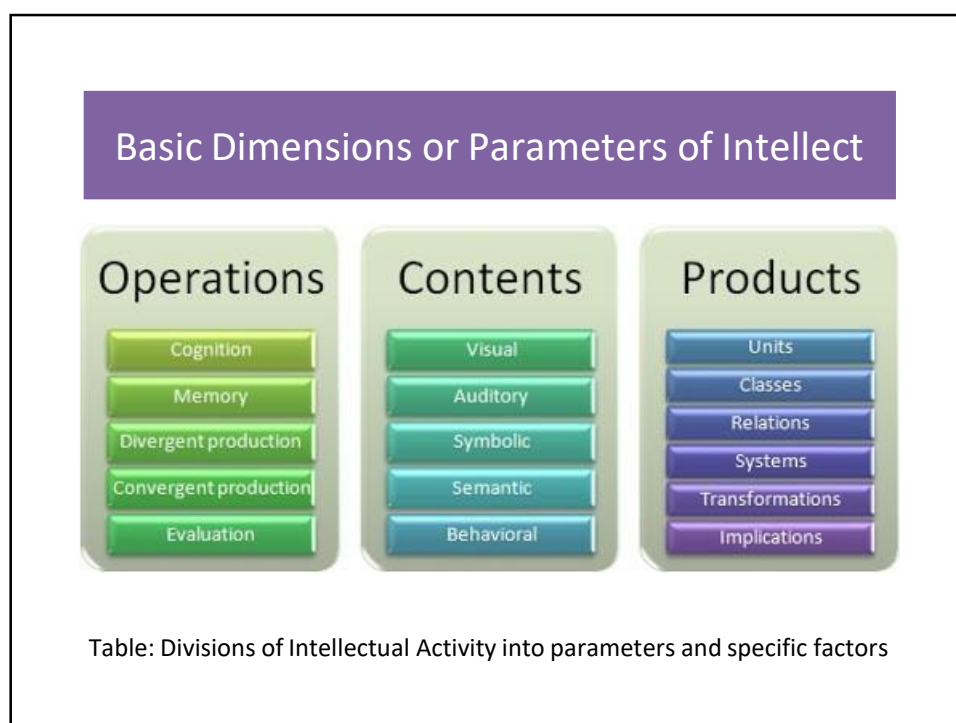
Ramakrishna Mission Sikshanamandira

Guilford's Structure of Intellect (SOI) Model

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Human Intellectual Activity can be described in terms of three different basic dimensions or parameters -

- **Operations** – the act of thinking
- **Contents** – the terms in which we think (such as works or symbols)
- **Product** – the idea we come up with



Structure of Intellect: Operations

According to the Structure of Intellect theory, there are 5 distinct operations that are linked to a learner's intelligence.

1. Cognition

Understanding new information and discovering new ideas and concepts. This is also directly related to their level of comprehension and how well they can discover information on their own.

2. Memory

Acquiring and assimilating new information, also known as encoding, as well as retaining and recalling that information.

3. Convergent Production

Following rules and problem-solving. Learners able to examine the problem and then arrive at a single solution.

4. Divergent Production

Deducing a variety of different solutions to a problem. This also pertains to creativity.

5. Evaluation

Determining if information is correct, incorrect, or relevant. Learners able to use their knowledge and resources to gauge whether the information is accurate and pertinent to the situation

Parameter: Contents

- **Figural Factor** – Concrete material perceived through senses. Divided into two separate categories – **visual and auditory**
- **Symbolic** – Material in the form of signs and symbols
- **Semantic** – Material in the form of verbal meaning of ideas
- **Behavioural**

Structure Of Intellect: Contents

The Structure of Intellect theory also states that there are 5 types of content that the human mind uses to carry out the aforementioned operations:

1. Symbolic

Information that appears in the form of signs or images which are symbolic. Roman numerals, music notes, and branding icons are all examples of symbols.

2. Semantic

The perceived meaning of verbal information. There are two primary areas of semantics: logical and lexical. Logical deals with references and implications, while lexical pertains to relationship between words and their intended meaning.

3. Figural: Visual

Part of the "figural" category, which pertains to real world information and things that appear in the learner's surroundings. Visual information is observed by our sense of sight. This includes images, charts, and videos, just to name a few.

4. Figural: Auditory

Another aspect of the "figural" category. Auditory information is picked up by our sense of hearing. This includes music, narrations, and other audio elements.

5. Behavioral

This is actually an add-on content category that is not part of Guilford's final human intelligence theory. It deals with the perceptions of other's actions and their significance. For example, learning a new concept or idea by observing another individual.

Structure Of Intellect: Products

Based on the Structure of Intellect, there are a total of 6 products.

1. Units: A single piece of knowledge.

This is the most basic product, as it does not facilitate any widespread change in the mental schema. For example, individuals who learn a new word or a simple concept are acquiring a unit of knowledge.

2. Classes: A collection of units that has similar attributes or a common denominator. A set of rules or company policies would be an example of "classes". This information does not necessarily tie into preexisting knowledge.

3. Relations: Units that are somehow related.

This may come in the form of sequences, opposites, or comparisons.

4. Systems: Information that is interconnected.

These units form a network of interrelated concepts and ideas. This is a highly complex structure that may draw upon pre-existing knowledge.

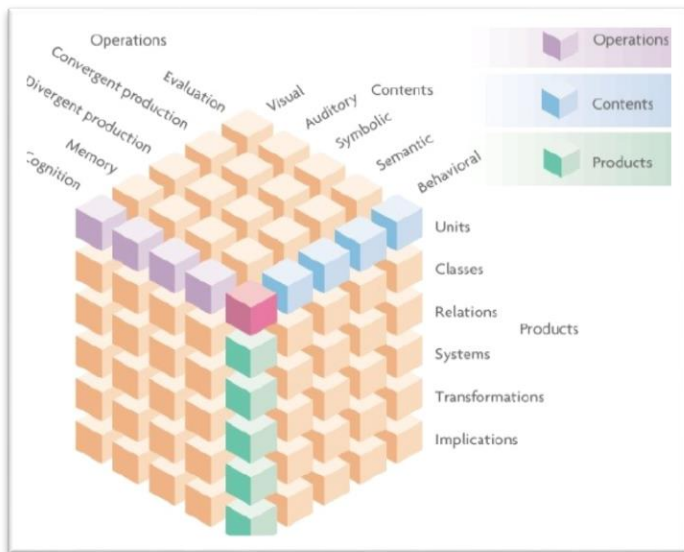
5. Transformations: Knowledge is altered.

It may be converted into new information.

6. Implications: Learners can foresee the implications of acquiring the information. For example, they may be able to predict the outcome or make inferences about

how it relates to existing knowledge. They can also determine the consequences, negative or positive, that are involved.

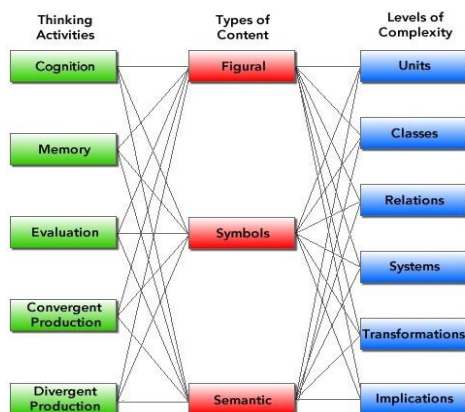
Guilford's Model of Structure of Intellect (SOI)



Three basic parameters along with their divisions into a specific number of factors, that could be $5 \times 6 \times 5 = 150$ factors in all, constitute human intelligence.

Each one of these factors has a trigram symbol, i.e. at least one factor from each category of the three parameters has to be present in any specific intellectual activity or mental

Three Dimensions That Form Thinking Abilities



task.