M.A (PSYCHOLOGY) SEMESTER 2
COGNITIVE PSYCHOLOGY (CC-5)
TOPIC: COMPONENTS OF THINKING

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Components of Thinking:

1. **Concept**
2. **Images**
3. **Symbol**
4. **Preposition**

The details of these components are as follows:

1. CONCEPT- A concept is a basic tool of thought, it is a way in which we organize and simplify information. These concepts are categories of objects, events, or ideas with common properties. For instance, we use the concept of fruits to refer to Apple, Mango, Banana etc. Some concepts, such as tall and yellow are visual and concrete. Concepts such as honesty and jealousy are more abstract and harder to define. Concepts need recognizing the properties, or features, that are grouped under a class.

Concept learning is influenced by a wide variety of factors. Some are as follows:-

- Instruction

- Contexts

- Nature of the concept

- Transfer

- Ability for manipulation

- Discrimination

- Exposure

○ **Types of Concepts**

(a) Formal concepts (Artificial concepts)- A mental category that is formed by learning the rules or features that define it. Ex, Psychology is a scientific subject which has been proved by different studies. A triangle always has three angles and three sides.

(b) Natural concepts- A natural concept is a concept formed as a result of everyday experience rather than by logically determining whether an object or event fits a specific set of rules. Natural concepts have a set of typical or characteristic features, and members don't need to have all of them. Example, For example, the ability to fly is a characteristic feature of the natural concept "bird," but an ostrich is still a bird even though it can't fly. It is a bird because it has enough other characteristic features of "bird" (such as feathers and wings).

- A member of a natural concept that possesses all or most of its characteristic features is called a **prototype**. Example, Mother Teresa who possessed all characteristics of a good human being.

(c) Conjunctive concept- A conjunctive concept brings together perceived attributes. Conjunctive concept joins attributes to make a perceptual whole. For example, forming the concept of a cow, means a dog is an animal with all of these attributes: it has four legs, a tail, two eyes, eats grass and it gives milk.

(d) Disjunctive concept- A disjunctive concept treats perceived attributes in either-or terms. It includes exception. Like a person says that he can eat all vegetables except Bitter gourd. Bitter Gourd that the person cannot eat, in this case, a disjunctive concept.

(e) Relational concept- A relational concept treats perceived attributes in terms of some connection between objects or ideas such as more than, less than, bigger than, more beautiful than, and so forth.

CONCEPT FORMATION: It depends on some factors which are-

(A) Exemplar- Individual instances of a concept or category, held in memory. When we encounter a new object, we compare it to the exemplars that we have stored in memory to determine whether it belongs to that category. Concepts are formed by both positive and negative exemplars. A positive exemplar is an object or an idea that fits the concept that can be contained within it. A negative exemplar is an object or an idea that does not fit the concept that cannot be contained within it.

(B) Schema- A schema is a mental construct consisting of a cluster or collection of related concepts. It is a method of organizing information that allows the brain to work more efficiently. When a schema is activated, the brain makes immediate assumptions about the person or object being observed. A **role schema** makes assumptions about how individuals in certain roles will behave. Like, when we met an Army man, we think that he is a courageous man. Without knowing anything, we make judgment about him. An **event schema**, also known as a **cognitive script**, is a set of behaviors that can feel like a routine. Like, when we drive a car, we put our seatbelt.

(C) Association- The association principle postulates that the learning of a concept is a result of reinforcing the correct pairing of a stimulus with the response of identifying it as a concept, and non-reinforcing (a form of punishment) the incorrect pairing of a stimulus with a response of identifying it as a concept.

(D) Hypothesis Testing- The initial stage in concept formation is the selection of a hypothesis or a strategy that is consistent with the objectives of our inquiry. Whenever we seek to find out something, the process involves the establishment of priorities, much as a lawyer may ask a series of questions, or a doctor may conduct a set of diagnostic tests. The strategies participants may select in concept formation include scanning (**Simultaneous scanning, Successive scanning**) and focusing (**Conservative focusing, Focus gambling**).

2. IMAGES- Images are mental representations of visual information. People also have the ability to imagine tastes, smells, and tactile experiences. Most people can imagine melodies of familiar songs in their head. We also create mental images that serve as mental models of descriptions we hear or read.

3. SYMBOL- A symbol is a word, mark, sign, drawing, or object that represents an object or quality. The word Apple is a symbol for the actual apple. Symbols differ from the things they represent enables us to think about things that are not present, to consider the past and future, and to imagine things and situations that never will be or never were. Numbers, letters, punctuation marks, and icons are all familiar symbols of ideas that have no concrete existence.

4. PROPOSITIONS- A proposition is a mental representation that expresses a relationship between concepts. Propositions can be true or false. Thinking involves relating one concept to another or one feature of a concept to the entire concept. Example, Biharis are hard working. It indicates some kind of relationship between the concepts and one or more of their features. Here, it can be assumed that hard work is the main feature or tendency of Biharis.