Thinking
Types, Development and Tools

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In this chapter, we will discuss about: -
Introduction to Thinking:

Cognitive abilities like thinking, reasoning and problem-solving may be considered to be some of the chief characteristics which distinguish human beings from other species including the higher animals.

The challenges and problems faced by the individual or by society, in general are solved through series of efforts involving thinking and reasoning. The powers of thinking and reasoning may thus be considered to be the essential tools for the welfare and meaningful existence of the individual as well as society.

A. Thinking:

1. According to Ross: “Thinking is a mental activity in its cognitive aspect or mental activity with regard to psychological aspects”.

2. According to Garrett: “Thinking is a behaviour which is often implicit and hidden and in which symbols are ordinarily employed”.

3. According to Gilmer: “Thinking is a problem-solving process in which we use ideas or symbols in place of overt activity”.

4. According to Mohsin: “Thinking is an implicit problem-solving behaviour”.

B. Types of Thinking:

Thinking can be classified as follows:

1. Perceptual or Concrete Thinking:

This is the simplest form of thinking the basis of this type is perception, i.e. interpretation of sensation according to one’s experience. It is also called concrete thinking as it is carried out on the perception of actual or concrete objects and events.

2. Conceptual or Abstract Thinking:
Here one makes use of concepts, the generalized objects and languages, it is regarded as being superior to perceptual thinking as it economizes efforts in understanding and problem-solving.

3. Reflective Thinking:
This type of thinking aims in solving complex problems, thus it requires reorganization of all the relevant experiences to a situation or removing obstacles instead of relating with that experiences or ideas. This is an insightful cognitive approach in reflective thinking as the mental activity here does not involve the mechanical trial and error type of efforts.

In this type, thinking processes take all the relevant facts arranged in a logical order into an account in order to arrive at a solution of the problem.

4. Creative Thinking:
This type of thinking is associated with one’s ability to create or construct something new, novel or unusual. It looks for new relationships and associations to describe and interpret the nature of things, events and situations. Here the individual himself usually formulates the evidences and tools for its solution. For example; scientists, artists or inventors.

Skinner, the famous psychologist says creative thinking means that the prediction and inferences for the individual are new, original, ingenious and unusual. The creative thinker is one who expresses new ideas and makes new observations, new predictions and new inferences.

Characteristics of Creative Thinking:

a. Creative thinking, in all its shapes and forms is absolutely an internal mental process and hence should be considered as an important component of one’s cognitive behaviour.

b. Every one of us is capable of creative thinking and hence it is a universal phenomenon.

c. Creative thinking results in the production of something new or novel including a new form of arrangement of old elements.

d. Creative thinking in all its dimensions involve divergent thinking instead of the routine and final types of convergent thinking. The mind must have complete freedom to wander around to create a new idea.

e. The field of creative thinking and its out part is quite comprehensive and built wide. It covers all the aspects of human accomplishments belonging to an individual’s life.
5. Critical Thinking:

It is a type of thinking that helps a person in stepping aside from his own personal beliefs, prejudices and opinions to sort out the faiths and discover the truth, even at the expense of his basic belief system.

Here one resorts to set higher cognitive abilities and skills for the proper interpretation, analysis, evaluation and inference, as well as explanation of the gathered or communicated information resulting in a purposeful unbiased and self-regulatory judgement.

An ideal thinker is habitually inquisitive, well-informed, open-minded, flexible, fair-minded in evaluation, free from personal bias and prejudices, honest in seeking relevant information, skilled in the proper use of the abilities like interpretation, analysis, synthesis, evaluation and drawing conclusion and inferences, etc.

The critical thinking is of a higher order well-disciplined thought process which involves the use of cognitive skills like conceptualization, interpretation, analysis, synthesis and evaluation for arriving at an unbiased, valid and reliable judgment of the gathered or communicated information or data as a guide to one's belief and action.

6. Non-directed or Associative Thinking:

There are times when we find ourselves engaged in a unique type of thinking which is non-directed and without goal. It is reflected through dreaming and other free-flowing uncontrolled activities. Psychologically these forms of thought are termed as associative thinking.

Here day-dreaming, fantasy and delusions all fall in the category of withdrawal behaviour that helps an individual to escape from the demands of the real world by making his thinking face non-directed and floating, placing him somewhere, ordering something unconnected with his environment.

We hear there is nothing seriously abnormal in behaviour involving day-dreaming and fantasy but behaviour involving delusions definitely points towards abnormality.

A person under the influence of such delusions may think or believe that he is a millionaire, the ruler of the universe, a great inventor, a noted historian or even God. In contrast, a person in the grip of delusion may be inclined to be the most incapable, unworthy and unwanted person and may develop guilt feelings or complain that he is the victim of some incurable physical or mental diseases.

C. Development of Thinking:
Thinking is one of the most important aspects of learning process. Our ability to learn and solve the problems depends upon our ability to think correctly which helps us in adjustment and is necessary for a successful living. Only those men who can think distinctly, constructively and carefully can very much contribute something worthwhile to the society. As no person is born-thinker, one has to acquire knowledge of technique and practice of proper thinking.

There are few methods which help to develop thinking through training.

1. Adequacy of the Knowledge and Experience:

Adequacy of the knowledge and experience is considered to be the background of systematic thinking. So care should be taken to help the children with adequate knowledge and experiences which can be done by:

(a) Training the children to enhance the process of sensation and perception to gain better knowledge and experience to improve critical thinking.

(b) A person should be provided with opportunities for gaining adequate experiences and should be encouraged for self-study, discussion and participation in healthy and stimulating activities.

2. Adequate Motivation and Definiteness of Aims:

Motivation helps in mobilizing our energy for thinking. It creates genuine interest and voluntary attention in the process of thinking, and thus helps a lot in increasing the adequacy and efficiency of our thinking. Thus one should try to think on definite lines with a definite end or purpose, the problems we solve should have intimate connection with our immediate needs and basic motives, and such thinking should be directed on creative and productive activities.

3. Adequate Freedom and Flexibility:

Thinking should not be obstructed by imposing unnecessary restrictions and narrowing of the field of thought process. If the past experiences or habitual methods do not help in solving the problem we should strive for new association, relationships and possibilities for arriving at satisfactory results.

4. Incubation:

When we set ourselves to solve a problem but fail to solve it in-spite of our strain, putting more efforts to thinking and persistent thinking, it is better to lay aside the problem for some time and relax for a while or engage in some other activity. During this interval a solution is evolved to
that specific problem through the efforts of our unconscious mind. This phenomenon of incubation is helpful.

5. Intelligence and Wisdom:

Intelligence is defined as the ability to think properly, and thus proper development of intelligence is essential for bringing adequate thinking. Proper care should be taken to use intelligence, wisdom and other cognitive abilities for carrying out the process of thinking.

6. Proper Development of Concepts and Language:

Concept is a word or idea with a generalized meaning which represents an entire class of objects, ideas or events; for example, a word “saree” is a concept, when you think this word it represents all kinds of sarees which are six yards or eight yards long sarees made of silk, cotton, nylon or a mixture of the concept formation begins in early childhood which are first hand face-to-face example. It can be positive or negative.

Language is a highly developed system of symbols in which words within a grammar can be written or spoken in different combinations. Much of the thinking depends upon language although some imaging is also present.

Concepts, symbols, signs, words and language are the vehicles as well as instruments of thought. Without their proper development one cannot proceed effectively on the path of thinking. Their development stimulates and guides the thought process.

Improper development and faulty formation of concepts and likewise, symbolic behaviour not only hampers a person’s progress in thinking but also proves fatal, as they may provoke perverted thinking and wrong conclusions.

7. Adequacy of Reasoning Process:

Thinking is also influenced by the mode of reasons one adopts. Illogical reasoning often leads to incorrect thinking. Logic is the science of correct reasoning which helps to think correctly. Therefore, we should cultivate the habit of logical reasoning among our children.

D. Tools of Thinking:

There are a few important elements involved in the thinking process:
1. Images:
As mental pictures consist of personal experiences of objects, persons or situations, heard and felt. These mental pictures symbolize actual objects, experiences and activities. In thinking, we usually manipulate the images rather than the actual objects, experiences or activities.

2. Concepts:
A concept is a general idea that stands for a general class and represents the common characteristics of all objects or events of this general class. Concept, as a tool, economize the efforts in thinking, for example, when we hear the word ‘elephant’ we are at once reminded not only about the nature and qualities of elephant as a class but also our own experiences and understanding of them come to the surface in our consciousness to stimulate our thinking at that time.

3. Symbols and signs:
Symbols and signs represent and stand for substitute of the actual objects, experiences and activities. For example, traffic lights, railway signals, school bells, badges, songs, flags and slogans all are symbolic expressions, they stimulate and motivate resultant thinking because they tell us what to do or how to act.

4. Language:
Is the most efficient and developed vehicle used for carrying out the process of thinking. When a person reads, writes or hears words or sentences or observes gesture in any language one is stimulated to think. Thus reading and writing of documents and literature also help in stimulating and promoting the thinking process.

5. Muscular activities:
Thinking in one way or the other shows the evidence of the involvement of some incipient movements of groups of our muscles. A high positive relation has been found to exist for the thinking and muscular activities of an individual. The more we engage ourselves in thought, the greater is the general muscular tension and conversely as we moved towards muscular relation, our thought processes gradually diminish.

6. Brain functions:
Whatever may be the role of the muscles, thinking is primarily a function of the brain. Our mind is said to be the chief instrument of the thinking process. The experiences registered by our sense organs have no meaning, and thus cannot serve as stimulating agents, or instruments for thinking unless these impressions are received by our brain cells and properly interpreted to derive some meaning.

The mental pictures or images can be stored, reconstructed or put to use only on being processed by the brain. What happens in our thought process is simply the function or product of the activities of our brain.

E. Errors in Thinking:

Our thinking, reasoning and problem-solving behaviour all are largely influenced by our “sets”, which is a kind of habit or a way in which we have accustomed ourselves in perceiving certain situations.

Whatever registered earlier in our perceptions or experiences provide the base for our present and future thinking. We won’t change from our preset path of thinking which leads towards a rigid behaviour.

We happen to make mistakes because of our attitude, likes and dislikes, bias or oversimplified thinking, reasoning and problem-solving, etc. These mental sets have been gained from previous experiences surely interfere with our subsequent thinking resulting in ineffective behaviour.

Thus our thinking will be defective and harmful if it is not based on correct data or information. Our biases, prejudices and beliefs sometimes do not enable us to think logically. We make wrong conclusion because of our prejudices, hence we are inclined to ignore and overlook those facts which support right conclusion.

1. Our thinking is defective because we have allowed ourselves to be swayed by our emotions. Many people do not think clearly and accurately during an examination because they have been disturbed by fear and failure.

2. Many times our thinking become fallacious, and cannot view the problem from different angles broadly.

3. Many of our thinking may also be distorted by superstitions or by lack of information that is relevant to the subject.

4. Many of our wishful thinking are also unscientific thinking. Our prejudices and biases cause conflicts, rationalizations and delusions which are defective thinking as well.