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THINKING STYLE

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Saradha Sankararaman

Research Associate, Kauntinya Institute of Educational Technology Madurai

Abstract

Thinking is an inner kind of mental process in which mental contents follow one another and which can be studied independently of the needs, motives and desires of an individual. In a broad sense thinking includes all form of cognition, perception, memory and conception. Thinking is often described as adjustment to a hypothetical situation. Thinking, like perceiving and remembering, is a cognitive process. It however, depends both on perception and the memory of the material The material, which has been in the thought process, is the one that was observed at some previous occasion and is remembered at the present moment A-thinking skills program must help children think more logically and more meaningfully. Inseparable from speech thinking is a socially - conditioned mental) process of search for and discovery of the essentially capable of mediated and generalized reflection of reality with the help of analysis ant synthesis, thought desires from practical activity and evolving from sensuous knowledge, extends far beyond its bonds.

Keywords: Thinking, mental process, cognition, perception, memory, conception

Types of Thinking

In a broad sense thinking includes all forms of cognition, perception, imagination, memory and conception. But in a restricted sense it means either imagination or reasoning. Woodwork aptly describes the former as mental manipulation and the latter as mental exploration. In imagination facts previously observed and recalled and these images are combined and manipulated into new patterns. In reasoning, we mentally explore new relations actually existing between facts. Both are independent of the present and seek to meet a possible situation in the future.

Ennis has refined his model or taxonomy of critical thinking skills (1985) to include three types of thinking skills.

1. Define and classify
 - a) Identify central issues and problems
 - b) Identify conclusions
 - c) Identify reasons
 - d) Identify appropriate questions to ask given a situation
 - e) Identify assumptions
2. Judge information
 - a) Determine credibility of sources and observations

- b) Determine relevance
 - c) Recognize consistency
3. Inter - solve problems and draw reasonable conclusions
- a) Inter and judge inductive conclusions
 - b) Deduce and judge deductive validity
 - c) Predict probable consequences

Thinking may be many kinds such as reveries, controlled association, reasoning conceptual thinking, imagination, day - dreams, night dreams ^creative thought and so on, These different kinds of thinking are not separate kind distinct but grade into one another. The material made use of in all types of thinking is of the same kind and hence, it is not possible to distinguish types of thinking by the objects of thought.

Thinking may vary is at least two important ways.

1. In the kind and amount of control of the process by the thinking individual and
2. In the degree of correspondence between the original experience and the representations of that experience in the thought.

Aspects of Thinking

The area of critical thinking was delineated by Ennis (1962) as a special domain of human thinking. He noted that psychologists and educators had addressed creative thinking, concept formation problem solving and associative thinking, but had not investigated critical thinking skills. Ennis reviewed the literature on thinking skills attempted to identify basic dimensions of critical thinking.

Thinking Process

The situation which calls for adjustment is analysed and the relation of the part to one another and to the whole is clearly seen. To understand this complex process of thought fully, we must study the processes through which concepts are formed, judgements arrived at and reasoning carried out.

1) Conception

The basis of concepts is perception. The several perceptions are compared* their-common qualities are emphasized and abstracted and a general idea which does not correspond to any one subject but is the cumulative results of many is formed.

Concepts are the results of comparison, relation, abstraction and) generalization. Concepts may be of objects, relations or qualities^ Horse, cap table etc are concepts of concrete objects. Honesty, redness/,*/ taste, punctuality etc are concepts of qualities. Bigger, higher, smaller et are concepts of qualities. Concepts of abstract qualities and relations are acquired by children later and the main care of the teacher should be that

they acquire most of their concepts themselves. He should make them discover relations and common qualities and then supply the name.

Words play an important role in conception which facilitate children's ability to concentrate attention on general ideas. They help clarity of thought and the precise and accurate use of language goes with clear and definite thinking.

2) Judgement

Concepts do not hang alone. They are always related to one another whenever two ideas are connected and a relation of agreement or disagreement is asserted between the two, we have a judgement. To judge to discover the relationship between two ideas. The idea related family concrete or abstract. The common meaning of judgement as decision is true. We decide about the relation between ideas on the basis of perception and our interpretation of what we perceive.

The teacher's responsibility in training children to judge for themselves is great. He should not only help them to acquire knowledge but also to change into wisdom by guiding them to assent to the bearing, the v relationship and the application of facts.

Young people should be encouraged to think independently. They should be asked questions which demand earnest thinking.

The aim of the teacher should be not uniform knowledge, but multiform thinking. Much of our common teaching is mere telling either by the \teacher or the test book. In the study of science they should discover facts for themselves or verify those already known; in literature, biography, and history they should judge motives and conduct of the characters studied; in art and music they should distinguish between the beautiful and the ugly the harmonious and the jarring good taste and love for truth will stimulate independent judgement.

3) Reasoning

Reasoning is the mental activity used in argument, demonstration or proof. It consists in making a new judgement on the basis of judgement or judgement already formed and is commonly defined as 'receiving relations among judgements (or) seeing agreement or "ts agreement among judgements already made.

Dewey analyses it into five steps

1. A difficulty is felt, or a problem is realized
2. The second step is to examine the object (or) situations carefully.
3. Thirdly, an attempt is made to solve the problem or explain the puzzle.
4. Fourthly one very probable solution is provisionally accepted, and an attempt is made to verify or test it.
5. Finally, on the basis of proof a solution accepted or rejected.

Reassuring is a process or adjustment to a new situation and at a somewhat higher level aims at the solution of a problem.

Reasoning is a valuable mental activity and in the solution of problems is far superior to the method of trial and error. In the latter the material must be present, but in reasoning the material need not be present.

Strategies of Thinking

The aim of critical thinking education is to advance effective thinking and productive thinking, creative thinking and problem solving. According to him the following steps are involved in an act of the problem.

1. A felt difficulty - awareness of the problem.
2. Locate and define difficulty - comprehending the problem.
3. Locate evaluate and organize information classifying data, b) Discovering relationship formulating hypothesis.
4. Evaluate hypotheses - accepting or rejecting hypothesis and
5. Apply the solution - accepting or rejecting the conclusions. Although the above mentioned steps apply to a complete act of thought, they reveal themselves in a more definite form in problem solving.
6. The strategies that teacher can use to improve student's thinking skills can generally be adapted for any grade level or subject area. Chapters provide information on Thinking skills.
 - 1) Think - making (Conceptualization)
 - 2) Qualification
 - 3) Classification
 - 4) Structure analysis
 - 5) Operation analysis and
 - 6) Seeing analogies

It is implemented in four states.

- (a) Introduction to the six thinking skills (by Use of these skills to solve problems
- (c) Transference of thinking skills to interdisciplinary subject matter ^and
- (d) Application of thinking skills to analyse and solve problems.

Thinking and Thought Process

Thinking, like perceiving and remembering, is a cognitive process. It however, depends both on perception and the memory of the material. The material which at any moment is in the thought process is that which one has observed at some previous occasion and has remembered it at the present moment.

For example, while you solve a cross - word puzzle, various cues are recalled to your mind. You think about the solution and in the process, the words which have been

perceived by you previously are recalled to your mind. Thus in thought process both perceptions and memory are involved.

When one is thinking about fairies, ghosts, heroism, honesty etc, he is thinking about those things which he has not perceived in the form in which they are in his thought process.

Thinking takes all sorts of different forms, but most psychological research into thinking has tended to look at goal directed thinking, like problem solving, rather than the more nebulous kinds of thinking, like day dreaming imagining or speculating. In part, this is because such thinking is easier to study ; but in part also it stems from the interest in similarities between human thinking and computer analysis which has developed since the advent of the computer.

"The other distinguishing variable is the degree to which a thought is a faithful reproduction of past experience, or the amount of correspondence between the thought and the actual experience". Taking this variable into consideration, we can also find out types of thought that vary between the two extremes.

Kinds of Thinking

Thinking may be of many kinds such as reveries, controlled association, reasoning, conceptual thinking, imagination, day dreams, night dreams, creative thought and so on. These various kinds of thinking are not separate" and distinct but grade into one another. The material made use of in all types of thinking is of the same kind and hence, it is not possible to distinguish types of thinking by the objects of thought. It is possible however, to make distinctions between different thinking activities on the basis of the manner or method in which the material of thought is employed.

"Thinking may vary in at least two important ways:

- (i) in the kind and amount of control of the process by the thinking individual and
- (ii) in the degree of correspondence between the original experience and their presentations of that experience: in the thought"

We will not take up the first variable - degree of control and will make an effort to fit into it various examples of thinking along a scale of degree or amount of control. At one extreme of the scale these are day - dreaming, night dreaming and reverie which have a very small amount of control. At the other extreme of the scale, these are reasoning and creative thinking which are the highly controlled kinds of thinking between these two extremes these are other varieties of thinking which can be easily described in terms of the kind and amount of control.

Development of Thinking

Questioning skills and inquiry methods have long been a part of the repertory of thinking skills. In their book on creative learning and teaching M Torrance and Myers (1970)

dealt extensively with the topics of questioning skills for both teaching and student. They provide all the techniques, showing how to question for information, how to question for thinking, how to use provocative questions and how to Jack. children-Ja-bscoms—good questioners. They propose that teachers use of the following forms of questions to stimulate student's thinking

1. Interpretation

What does the following statement mean? Conspicuous consumption by Americans living in Africa is a supreme paradox.

2. Comparison analysis

How are parenting practices and family value systems different now than they were 100 years ago?

3. Synthesis Questions

How could you combine elements of the philosophies of the Sierra Club and the Audubon Society to forge a stronger force for environmental protection in the United States.

4. Evaluation

Did the United States reveal moral bankruptcy by its failure to intervene when the Pol Pot regime massacred three million Cambodians?

5. Sensitivity to problems

What are the major problems of the United Nations Organizations?

6. Clarifying problems

Why don't teachers enjoy higher professional status?

7. Provocative Questions

What would be the results if a law was passed banning all killings and physical violence on TV?

8. Hypothetical Questions

If you were principal of the school, how would things change?

9. Questions to encourage thoughtful reading why was Mozart called the "Boy Wonder"?

10. Questions to encourage thoughtful listening Why did it take Morse as long to perfect his telegraph?

11. Questions to see new relationship

How is flooding in Pakistan related to America's love of big cars?

Students can be taught to be good questioners and their questioning skills can be developed but it appears that an appropriate classroom atmosphere is also desirable to foster this development. Some of the major characteristics of such a classroom are the following:

- 1) The teacher is patient and waits for students to formulate questions.
- 2) There is no rebuffing of students by teachers or peers for "dumb" questions (or) ideas.
- 3) Off-beat and unusual ideas or questions are accepted for discussion.

- 4) Humour is accepted and encouraged
- 5) The classroom is orderly but relaxed.
- 6) The classroom is a rich, stimulating environment with a lot of material resources
- 7) The teacher is "with it" and dynamic

Meta Cognition

Meta cognition is the term that subsumes the processes of developing awareness of one's own thinking and techniques for controlling and improving thinking activities. Beyer (1987) proposed three main areas of meta cognition activity.

1. Planning

- (a) Starting a goal
- (b) Selecting operation to perform
- (c) Sequencing operations
- (d) Identifying potential obstacles / errors
- (e) Identifying ways to recover from obstacles
- (f) Predicting results desired and or anticipated

2. Monitoring

- (a) Keeping the goal in mind
- (b) Keeping one's place in a sequence
- (c) Knowing when a sub goal has been achieved
- (d) Deciding when to go on to next operation -l(e) Selecting next appropriate operation
- (f) Knowing how to recover from errors, overcome obstacles.

3. Assessing

Assessing goal achievement Judging accuracy and adequacy of the results ^
Evaluating appropriateness of procedures used y Assessing handling of obstacles / errors
Judging efficiency of the plan and its execution.

The ultimate goal of such instruction would be for students to become more reflective above the effectiveness of their own Thinking processes.

Implementation of Thinking

The activities that can be used to teach a new introduction, the topics of the chapters of the resource guide and the activities included in each are:

1. Basic thinking skills
2. Critical thinking
3. Creative thinking
4. Problem solving
5. Decision making

Research indicates that students need to improve their critical thinking skill, but many students miss the opportunity to do so by not reading and analyzing their text books

are objective materials full of "facts" that must be memorized, understood and given back to the instructor, rather than subjective materials.

The review of research and the views of researchers prominent in the field of thinking skill development discusses the role of thinking skills in the ability to formulate problems, resolve issues, determine the most effective decisions and create effective solutions to problem.

Thinking and Environment

Conditions that stimulate thinking may be traced to the environment of an individual or his personality. In the first place these are some types of situations which compel thinking. Face to face with rapid and far reaching changes as our own times are witnessing, thinking is an imperative necessity.

The school is a community and if the pupils are not hedged in by too many rules, if the teacher, instead of giving too much guidance. Presents situations in which pupils are called upon to decide habits of self - reliance in thought and reasoning. The teacher should have a progressive attitude, to their classes for effective thinking.

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