

Metacognition: A Conceptual Framework

Ankit Chauhan^[1]

Namrata Singh^[2]

I. INTRODUCTION

This article explores the conceptual framework about metacognition. What metacognition is, what the metacognitive strategies, why it is important and how it develops in learners. This article argues that teachers need to help learner's metacognitive awareness, and identify the factors which enhance metacognitive development. Metacognition is one's ability to use prior knowledge to plan a strategy for approaching a learning task, take necessary steps to solving the problem, reflect on and evaluate results, and modify one's approach as needed. It helps learners choose the appropriate tool for the task and plays a critical role in successful learning. Metacognitive thinking is a key element in the transfer of learning. The learner's development of metacognitive skills is defined as Meta learning. Meta-teaching strategies can help mediate the metacognitive skills of learners and stimulate their metacognitive thinking.

In recent years the concept of metacognition has emerged as a major focus of research interest in cognitive psychology. There has been a growing recognition that metacognition or self-awareness 'including awareness of ourselves as learners, helps us to learn more effectively'. Therefore an attempt is made to answer the questions like: What is metacognition? What are the basic metacognitive strategies? How does it facilitate learning and what can teachers do to foster it in the classroom?

II. WHAT IS METACOGNITION?

Metacognition is often simply defined as, "thinking about thinking" or a higher thinking method.

Metacognition as "one's knowledge and beliefs about one's own cognitive processes and one's resulting attempts to regulate those cognitive processes to maximize learning and memory". Metacognition plays an important role in communication, reading comprehension, language acquisition, social cognition, attention, self-control, memory, self-instruction, writing, problem solving, and personality development.

Metacognition includes knowledge and regulation of one's thinking processes. Metacognition is a special type of knowledge and ability that develops with personal experience and with schooling. It is in a recursive loop with cognitive development in that it both produces and is a product of cognitive development. Metacognition involves activities such as planning how to approach a learning task, monitoring comprehension, and evaluating the progress.

People in their everyday basis use Metacognition. For example, after reading a paragraph the reader may ask himself questions about the text. If the reader cannot answer his own questions then he must go back and reread the text for better understanding. Although related, cognition and metacognition differ: Cognitive skills are those needed to perform a task whereas metacognitive skills are necessary to understand how it was performed. Successful adult learners employ a range of metacognitive skills, and effective teachers of adults attend to the development of these skills.

Metacognition refers to higher order thinking which involves active control over the cognitive processes engaged in learning. Activities such as planning how to approach a given learning task, monitoring comprehension and evaluating progress towards the completion of a task are metacognitive in nature. Because metacognition plays a critical role in successful learning, it is important to study metacognitive activity and development to determine how students can be taught to better apply their cognitive resources through metacognitive control.

Flavell (1979) first used the term 'metacognition'. He described in these words: metacognition refers to one's knowledge concerning one's own cognitive process or anything related to them for example the learning related properties of information or data. Metacognition is an important part of intentional learning, since it involves actively thinking about what you know, what you don't know, and how you can get better at knowing and applying what you know. Metacognition is defined as "cognition about cognition", or "knowing about knowing." It can take many forms; it includes knowledge about when and how to use particular strategies for learning or for problem solving.

- Metacognition refers to learners' automatic awareness of their own metacognitive reading strategies
- Knowledge and their ability to understand, control, and manipulate their own cognitive processes.
- Metacognition refers to a level of thinking that involves active control over the process of thinking that is used in learning situations. Planning the way to approach a learning task, monitoring comprehension, and evaluating the progress towards the completion of a task: these are skills that are metacognitive in their nature.
- Different fields define metacognition very differently. Metacognition variously refers to the study of memory-monitoring and self-regulation, consciousness/awareness and auto-consciousness/self-awareness.

^[1] Research Scholar Dept. of Pedagogical Sciences, Faculty of Education, Dayalbagh Educational Institute (Deemed University) Agra U.P.,
E-mail: chauhansankit@gmail.com 08005114642

^[2] RM. Phil. Scholar Dept. of Home Science, Faculty of Arts, Dayalbagh Educational Institute (Deemed University) Agra U.P.,
E-mail: namratasingh2908@gmail.com

III. WHAT ARE THE METACOGNITIVE STRATEGIES?

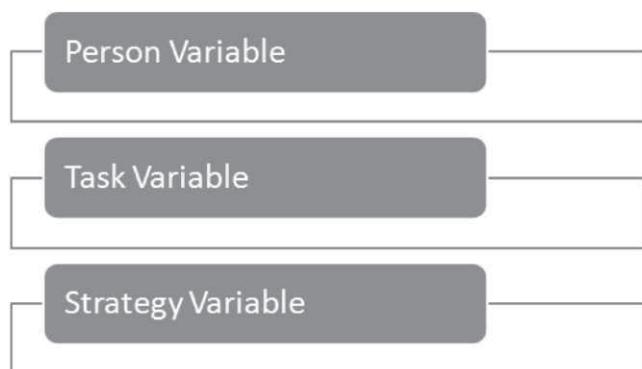
“A metacognitive strategy is a systematic cognitive technique to assist students in recognizing, planning, implementing and monitoring solutions to problems.” The basic metacognitive strategies are-

- Connecting new information to former knowledge.
- Selecting thinking strategies deliberately.
- Planning, monitoring, and evaluating thinking processes.

A thinking person is in charge of his behaviour. He determines when it is necessary to use metacognitive strategies. He selects strategies to define a problem situation and researches alternative solutions. He tailors this search for information to constraints of time and energy. He monitors, controls and judges his thinking. He evaluates and decides when a problem is solved to a satisfactory degree or when the demands of daily living take a temporary or permanent higher priority. In practice these capacities are used to regulate one's own cognition, to maximize one's potential to think, learn and to the evaluation of proper ethical/moral rules. According to Flavell (1979) metacognition consists of both metacognitive knowledge and metacognitive experience or regulation.

Metacognitive Knowledge

Knowledge of person variable refers to general knowledge about how human beings learn and process information, as well as individual knowledge of one's own learning processes. Knowledge of task variables includes knowledge about the nature of the task as well as the type of processing demands that it will place up on the individual knowledge about strategy variables includes knowledge about both cognitive and metacognitive strategies as well as conditional knowledge about when and where it is appropriate to use such strategies (Livingston, 1997). Flavell (1979) further divides metacognitive knowledge into three categories:



Metacognitive Regulation

Metacognitive experience involves the use of metacognitive strategies on metacognitive regulation (Brown 1987) Metacognitive strategies are sequential processes that one uses to control cognitive activities, and to ensure that a cognitive goal (e.g. understanding a text) has been met. These processes help to regulate and oversee learning and consist of planning and monitoring cognitive activities, as well as checking the outcomes of these activities (Livingston, 1997).

Why Metacognitive Environment?

A metacognitive environment encourages awareness of thinking. Planning is shared between teachers, school library, media specialists and learners. The metacognitive abilities of students grow and thrive in an environment where the actual processes of thinking are an important part of the instruction and conversation during the day. To create this environment teachers and students must develop a language of thinking that they all use consistently. Metacognitive strategies are already in teacher's repertoires. We must become alert to these strategies, and consciously model them for students.

Problem solving and research activities in all subjects provide opportunities for developing metacognitive strategies. Teachers need to focus student attention on how tasks are accomplished. Process goals, in addition to content goals, must be established and evaluated with students to enable them to discover that understanding and transferring thinking processes improve learning.

IV. CONCLUSION

The study of metacognition has provided educational psychologists with insight about the cognitive processes involved in learning and what differentiates successful students with their less successful peers. As students become more skilled at using metacognitive strategies, they gain confidence and become more independent as learners. Independence leads to ownership as students realize they can pursue their own intellectual needs and discover a world of information at their fingertips. In this rapidly changing world, the challenge of teaching is to help students develop skills which will not become obsolete. Metacognitive strategies are essential for this century. They will enable learners to successfully cope with new situations.

V. REFERENCES

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