

## CHAPTER - II

### "STATEMENT OF THE PROBLEM"

Education is the reformation and modification of animal instinct of human being without any prejudices of any race, nationality, geographical surroundings and prosperity. Since the awakening of mankind all possible effects have been directed to generalize education. The efforts of missionaries and royalties have been praise worthy indifferent period of civilization over the globe.

A large number of reactionary experiments have been launched to make education effective and conclusive. The policy makers, research scholars devised most practical theories and policies which have been changing the attitudes of the educationist who facilitated the standing requirements and pointed out the fresh provabilities and possibilities of the problems that prepared the way the thinkers. The present age education

is child-centred and every possible efforts is concentrated to employ many dimensional faculties of the children which are mostly related to the mathematics. Since mathematics has important role in every branch of learning, its importance in metacognition is greater than in any other branch of learning. Much efforts have been directed to collect the materials from diverse sources and study of psychologist and educationist and a deep survey has been made of the classrooms situations. On the basis of the achievement it has been concluded that the lowachievers children have been neglected and metacognitive skills have been avoided. In the teaching of the mathematics metacognitive values have to be given top priority to drive out most successful result. Conceiving the individual as active information processor, cognitive psychologists began their search on system of internal organization of information. In this direction Anderson (1975), conceptualized two system i.e. representational system and executive system through which information became organized.

The term metacognition was recently found in the field of cognitive psychology. Research thinking the term metacognition or one of its derivatives such as metamemory or metalearning, is young. The term were not used until the 1970's, and metacognition did not became a descriptor

in the Educational Resources Information Centre system until 1980. However, other older words from the history of psychology dealt with similar conceptions.

First of all the definition of metacognition was given by the Flavell (1978) when he said it was "Knowledge that taken as its object or regulate any aspect of any cognitive endeavor." Brown, Branford, Ferrare and Campione (1983), Metacognition is defined as "The knowledge and control one has over one's thinking and learning activities". According to Ann Brown (1979), Metacognition is "Knowledge about knowing or the subjects awareness of his own cognitive machinery and of the way this machinery operates." In brief metacognition is the introspective awareness of one's own cognitive process and one's self-regulation.

Regarding its importance it is found that metacognition plays a vital role in learning outcome. Learning and problem solving involves a change in behaviour or at least, a change in student's tendency to behave in a certain way" Research interest in executive process developed from the realization that learners and problem solvers must be aware of their cognition to take advantage of it. / This awareness encourages how thinking occurs how strategies are realed and the effectiveness of one's cognitive activities.

Bryant (1985) the study of mathematics has also shown the importances of metacognition as a determining factors of academic success. We may know how to solve some problem in the most efficient way, but when forced with the real life situation, up choose an efficient strategy even through more effective options are available. The reports are reveal the many that have identified a positive relationship between metacognition and specific areas of academic achievement.

Thus, it seems that cognitive researches have adopted the position that metacognition is not only important but vital for success in complex cognitive tasks and the facilitator of strategic behaviour, achievement and success. Seeing its importance it was thought that whether metacognition is an independent ability or related to any other ability like other psychological phenomena. In this direction the relationship between personality and metacognitiv factor in children with learning difficulties has opened new research domain.

Hagan, Barclay and Newmen (1982) argued that knowledge of past experience was determinant of what is noticed, learned, remembered and inferred about oneself in the future. Many other studies have dealt with issues such as: Children's and adult's recognition of their capabilities and limitations for success or failure at certain tasks; and expectations of future success.

Loper and Hellanen (1982) found that awareness of thought process and memory activities has been used as an explanation of a wide range of behaviours from young children will be able to concentrate, control, regulate their mind in reading, writing, understanding and to find a solution of given problem and different subject which are taught in their school. The learning will be more and effective, these things can be control by metacognition.

The view of the researchers that many of the learning problems that children experience are related to metacognitive deficits had appeal, especially in the light of researches suggesting that metacognition can be improved through instruction and experience. Thus we see that there is a inseparable positive relation between metacognition and achievement.

The above evidences indicate the importance of metacognition so far as students learning out come is concerned. Also in support of evidence, the study of Wang, Hartel and Walberg (1990). In the basis of literature synthesis highlighted the highest rating of metacognition as a student variable for learning. But the studies are scare in relation to the role of metacognition on learning performance of children.

Another fact emerged from those studies that metacognition can be improved through thinking. It is presumed that to increase the learning performance of a student the training on metacognition will be helpful. But it should be proceeded with the fact that high and low achievers are really different on metacognitive strategy.

Keeping in the mind the above facts certain questions raised in the mind like what is the relationship between the performance in mathematics and metacognitive strategy. Whether there is a difference between high and low achieving groups on metacognition? Is metacognition independent of specific cognitive ability of students? If any difference between high and low achiever in mathematics exist, is it substantiated with the sex group difference? If group level experience is meaningful so far as metacognitive is concerned?

To answer the above questions the present study is planned and stated as "Achievement In Mathematics And Metacognition: A Correlational Study".

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