

# A COMPARATIVE STUDY OF THE EFFECTIVENESS OF MASTERY LEARNING IN SCIENCE CONCEPTS

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## ABSTRACT

*Learning is generally regarded as change in behavior. It is affected by many factors e.g. pupils intelligence, age, social background and interest etc. Besides this, teaching plays prominent role in learning. The main focus of teaching is to facilitate learning. Although each student learns up to his capacities but these capacities probably can be enhanced with the help of teaching. It must be designed in such a way that appropriate learning conditions can be developed and desirable changes can be brought in learners.*

## INTRODUCTION

Man lives in a society. He interacts with the environment according to his needs and wants. The inner image of the man is known as "Self", it is defined as the perception by the individual of his own inner feelings. Eysenck (1972) has stated that the self may be understood as the perception, which the individual has of himself.

In modern psychology "self" has been related with the individual's identities. Horrocks (1976) has emphasized the importance of self in these words. "It is not an exaggeration to say that the process of self and identify building is the Chief development task in the psychic or affective cognitive area of the human organism "Self" is a process by means of which the organism derives and constructs self products, which taken together represent the organiser's interpretation and meaning of itself. In this relationship, the organism is the entity and self is the process that evolves representation of its own entity and it is related with mental behavioral activities.

## REVIEW OF LITERATURE

Change is a very important phenomenon of the present age and it affects the life of each and every individual. The world of today is changing rapidly because of the fast changes in the field of science and technology. Thus science is a compulsory subject in the schools has become the needs of the hour as also envisaged by different education commissions and committees right from Secondary Education Commission (1955) to National Education Policy (1986). This

scientific revolution going at an ever accelerating pace for the past few decades that science teaching became inevitable. Thus for progress of the country, it is required that its citizens successfully understand and practice the concepts and principles of science. Thus emphasis should be laid on basic principles, concepts and generalizations rather than on information and facts.

Through education pupils must be prepared to face the challenges and to keep pace with the advancement of science and technology. But existing traditional method of teaching in our class room doesn't fulfill these objectives. The main purpose of teaching is to prepare students for examination. Generally, pupils memorize the content and reproduce the same in the examination. In such as environment, creative thinking interest in enquiry activities and other skills e.g. problem solving skills, cooperative skill etc. cannot be developed among them.

Looking into the practical situation, the researcher felt that there is need to use such as teaching strategy which can motivate students to learn. Science Enquiry Model lays stress on understanding the content and process of science and scientific investigations. Through this model, open mindedness, independent thinking, cooperative skill, problem solving skill and interest in enquiry can be developed among students which are the dire needs of the present. Traditional method of teaching is just the transmission of knowledge but Science Enquiry Model of teaching provides scientific knowledge as well as inculcated habit of searching more knowledge through inquiry approach. Therefore researcher has planned to study the Effectiveness of Science Inquiry Model in attaining Mastery in Biology.

Even today, lecture method is commonly used method of teaching in the classroom. Most teachers give lectures without understanding the cognitive structure of students which results in poor learning. To solve this problem of teachers, Advance Organiser Model is a novel teaching strategy through which organized bodies of content can be taught in a meaningful way keeping in mind the cognitive map of learner. Simple ideas are presented first to the students followed by complex ideas so that learning can take place in sequential and integrated manner. In this habit of precise thinking and interest in Enquiry can be developed among the learners. The researcher has, therefore, selected Advance Organiser Model to test its effectiveness in attaining Mastery in Biology.

Since some long term effects of both the models e.g. interest in Enquiry are common, researcher has planned to study the relative Effectiveness of Advance Organiser Model and Science Enquiry Model in the classroom situation.

In India, research in the area of models of teaching has been gaining momentum since last decade. Researchers have compared Advance Organiser Model with other teaching strategies. An experimental study using Ausubel's and Burners strategy to ascertain their Comparative Effectiveness with Traditional Method for teaching of Mathematics was conducted by Chitrive (1983). The relative Effectiveness of two different types of Advance Organiser on

learning was studied by Ghosh (1985). The effectiveness of Advance Organiser Model and Inquiry Training Model for teaching social studies was compared by Pandey (1986). The instructional material using Advance Organiser Model and Operant Conditioning Model for teaching Educational psychology was developed and compared by Buddhisagar (1987). The effect of Advance Organiser Model, Concept Attainment Model and traditional Method on conceptual learning efficiency and retention in relation to divergent thinking was investigated by Jaimini (1990). The effect of Advance Organiser Model and Concept Attainment Model on achievement of pupils was studied by Mujeeb (1991).

Ranjana (1992) conducted a study on the Effectiveness of Mastery Learning Strategy on VI graders in the subject of science and reported that students taught through Mastery Learning Strategy showed significant improvement in the achievement, Self-Concept and classroom trust behavior.

Studies were conducted to compare the Effectiveness of Concept Attainment Model and Biological Science Inquiry Model (Sushma Kumari, 1988), Concept Attainment Model, Inductive Thinking Model and Advance Organiser (Gupta, 1995) and Halda Taba's inductive Thinking Model and

Advance Organiser Model (Khare, 2000) It is evident from this brief survey of researches conducted in India on the use of Advance Organize Model and Science Inquiry Model that very little work has been done to test their effectiveness in Indian situations and to adapt them to our peculiar need Effectiveness of Science Inquiry and Advance Organiser Models in attaining Mastery in Biology particularly has not been attended to adequately. Since the subject is gaining importance in school curriculum and has been made compulsory up to secondary level, research to use Advance Organiser Model and Science Inquiry Model to improve pupil's achievement in science needs to be conducted.

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