CHAPTER II

REVIEW OF RELATED LITERATURE
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2.0.0 Introduction

The present study is concerned with two models namely Social Inquiry Model and Memory Model. The investigator reviewed the researches related to these models and their effect on pupils’ achievement and their self-concept. This Chapter deals with review of studies related to Social Inquiry Model and Memory Model.

2.1.0 STUDIES RELATED TO SOCIAL INQUIRY MODEL

2.1.1 Pupils Achievement and Self-Concept

The Self-concept plays an important role in the behaviour determinant of an individual. In classroom teaching, for any individual, achievement which has quite a dependence on behaviour and hence the Self-concept, may be ascribed as a function of one/all of the following variables:

1. Students’ achievements and Self-concept
2. Effect of teacher behaviour on achievement
3. Effect of student behaviour on achievement

Present section is devoted to reviews related to the above mentioned variables with special emphasis on pupil’s achievement and Self-concept.
Faye Soffen (1968) conducted a study on “Teaching for improvement of Self-concept”. This study undertook to investigate whether the Self-concept of students in teacher education program could be improved by means of activities intended to increase the self knowledge and self acceptance, in a course in educational psychology. If improvement of Self-concept could be achieved within the format of an undergraduate teacher education curriculum, there would be major implications, for dealing with effective learning by pre-service teacher, and consequently implications for the effect of this learning upon their prospective students.

The central hypothesis predicted 1) that the Self-concept of pre-service teachers can be improved significantly by means of learning activities – collectively, the treatment variable – incorporated into an undergraduate course in the educational psychology 2) that the cognitive learning outcomes of the traditional course need not be compromised and 3) that the Self-concept scores are positively correlated with the evaluation scores given by the agency supervisors of the performance of subjects in providing leadership to groups of children. Experimental and comparison sections of the course entitled “Individual and group behaviour” at a large urban Eastern University were roistered through random assignment of 174 students. Four experimental sections were taught by two teachers who together selected and planned the innovative activities, the four comparison sections were taught by other teachers according to the objectives and methods traditionally employed.
It was observed that there is no evidence of significant improvement in the levels of Self-concept (i.e. identity, self satisfaction, behaviour) or the dimensions of the self (physical, moral -ethical, personal, family, social) neither in the experimental sections nor in the comparison sections.

Students in the experimental sections gave evidence of cognitive learning at least equal to those of the students in the comparison sections. The scores for the levels of Self-concept and for the dimensions of self for the total 174 students were correlated significantly ($p = 0.005$) with scores of agency evaluation performance. The sub scores for “behaviour” or the functioning self as a level of Self-concept and for the “personal self” as a dimension of self were the most powerful predictors of agency performance.

A semester course, as conceived for this study, is apparently insufficient as treatment variable to improve Self-concept, there are at least 15 variables within the Self-concept (as defined by the Tennessee Self-concept Scale), represented by the levels of self plus dimensions of self. The course did not identify which of these variables were targets for its intended impact. Its effect therefore may have been diffused and not reflected in the scores. The additional evidence of Self-concept as a predictor of performance continues to argue for the importance of devising means for the improvement of the Self-concept in pre-service teachers.

Lucas (1968) studied the relationships between Self-concept, selected scholastic variables and the grade point average of high
school students. The purpose of the study was to explore the possibility of relationships between the Self-concepts of high school students, selected scholastic variables and their cumulative grade point averages. The Self-concept was operationally defined as the aggregate of knowledge, feeling, attitude, belief and value held in relation to one’s self as measured by a score on the Bills index of adjustment and values.

Students in selected senior classes in each of the seven high schools of a union high school district in the metropolitan Los Angeles, California area comprised the subject population. The students were identified by sex and ability grouping. Data for Self-concept and grade 9 through 12 grade point average was available for 430 students. Complete data, including intelligence and scholastic achievement was available for 390 students. Measures used for the purpose include C.T.M. total index 1, sub tests 3 and 4 of the IOWA tests of educational development and the Bills index of adjustment and values of IAV, IAV includes scales for concept of self, ideal self and self discrepancy.

The main findings include that the inclusion of Self-concept variable contributed significantly to prediction of grade point average. The concept as significantly related to the grade point average. The relationship between the ideal Self-concept and scholastic ability was significant, however, that for concept of self, acceptance of self and discrepancy of self was not. The relationships between concepts of self, ideal self and scholastic achievement was significant while those
for acceptance of self and discrepancy were not. Females held significantly higher ideals Self-concepts than did males. Differences on other aspects Self-concept were not significant. For males, all aspects of Self-concept were significantly related to the G.P.A., while only concept of self and ideal self were found between ability groups.

The data seemed to support the following conclusions: 1) The Self-concept of the high school students are significantly related to the G.P.A., 2) The ideal self aspect of Self-concept is significantly related to scholastic achievement. 3) There are significant differences in Self-concept between sexes, 4) There are significant differences in Self-concept between students according to ability. More adequate Self-concepts are associated with placement in more able groups. The investigator recommends that further study be made in the following directions i) contribution of the Self-concept variable for prediction of scholastic performance ii) Development of Self-concept theory such that the operational definitions might be more satisfactorily derived and tested, iii) Development of a more suitable paradigm for the study of the relationship between Self-concept and scholastic performance, iv) Development of more powerful and precise measures of Self-concept and v) The impact of ability grouping on Self-concept.

Vasantha (1969) conducted a study covering self-concept and achievement in school subjects of prospective university entrance. It was found that positive relationship existed between self-concept and achievement, between self-concept and intelligence and between
intelligence and achievement certain demographic and environment variables like sex, area of residential community position in family and educational level of father were related to self-concept as well as achievement though the degree varied.

Reddy (1973) reported that the need for achievement, intelligence and personality factors were found to be significantly related to different achievement criteria more often than other variables. And he further observed that home environment appeared to be more prominent as potential predictor of academic achievement after intelligence. Lalithama (1975) revealed in his study that achievement in mathematics was positively related to Intelligence, study habits, interest and SES.

Nuthall and Church (1973) investigated in one study that the teachers were asked to concentrate either on teaching conceptual knowledge or on maximizing achievement test scores. The teachers intending to teach conceptual knowledge used more open ended questions, but did less lecturing. However these differences were unrelated to pupil test scores, either for factual knowledge or for higher level conceptual knowledge.

Mohan (1975) studied the development of Self-concept in relation to intelligence, learning ability, achievement and achievement motivation at adolescent level. The main objectives were I) To trace the general growth of Self-concept over years of adolescence, both longitudinally and cross-sectionally, separately for males, females and for combined groups of adolescents for the perceived, ideal and social
aspects of the self and the discrepancies among them. ii) to study the differential growth of Self-concept of high, average and low ability groups on intelligence, learning, achievement and achievement motivation and iii) to establish the relationship of the variables of Self-concept with the correlates of intelligence, learning (verbal and nonverbal) achievement motivation, achievement and originality.

In this study the development explanatory survey was coupled with the longitudinal and cross-sectional techniques. The longitudinal growth was traced studying the same subjects for the successive years only. This was combined with gross statistical comparison of Self-concept from 13–20 years, plotting graphically separate growth curves for males, females and total adolescent group at each age level. The data were analyzed with the help of general and differential growth curves and descriptive statistics. Multiple regression equation and factor analysis were also used for analyzing the data.

The main findings of the study were as follows 1) Longitudinal and cross-sectional growth analysis revealed increasing trend of female perceived self, males social self and decline of male perceived self and female social self. 2) Ideal self for both the sexes indicate rapid increase, 3) Discrepancies related to perceived and social self suggested varying pattern, while, those related to ideal self revealed upward rising growth throughout the adolescence, 4) Most of the differential growth curves, low and average groups indicated parallel growth, while high groups scores higher on all variable on self. 5) In both the general and differential growth analysis the best period of the
growth was found to be between 16 and 18 years marking the 17th year as the peak year in the growth of Self-concept. 6) Females showed more stability of the self than males during adolescence.

Mani and Gonsalves (1977) conducted a study of the Self-concept of student teachers in relation to their performance in practical teaching. The major aim was to identify the relationship between the students teaching performance and Self-concept with a view of background variables of previous academic achievement, age, socio economic background and previous teaching experiences. The sample for the study consisted of 180 students undergoing B.Ed. training and the tools used was Self-concept inventory specially designed for the investigation. Product moment coefficient of correlation was used for data analysis.

The major findings of the study were that teachers with greater teaching experience have a better Self-concept and the ones with better Self-concepts scored more on practice teaching than the teachers with poor Self-concept. Age too seemed to had an influence on Self-concept and the teaching effectiveness seemed to be affected by the socio economic background. For teachers in the upper socio economic status the correlation in the Self-concept and teaching practice scores was more than in the case of their middle class counterparts. Also the relationship in the Self-concept and teaching practice scores was generally not significant.

Pavanasm (1977) studied that the experimental group teachers talked less, were more responsive to pupils, encouraged more pupil
participation and had more pupil initiative than control group. The study further revealed that the students who were taught by the teachers trained in using indirect behaviour scored high in all tests as compared to the students working under teacher not given any training in this technique.

Sharma (1978) conduced a comparative study of the Self-concept of high and low achievement intelligent groups of student in an urban school. The objectives of the study included relationship between any two of the four main variables (Intelligence, Socio economic status scale, Academic achievement and Self-concept), relationship of academic achievement, intelligence, socio economic status and Self-concept respectively with different areas of Self-concept namely aspiration, confidence, emotions, inferiority, physical appearance and withdrawing tendency in various groups. Also the purpose was to find the inter correlations among various variables, to examine sex difference in various groups and to predict the Self-concept on the basis of intelligence, a socio economic status and achievement. The study also comprised of the prediction of achievement on basis of six areas of Self-concept in combination with either intelligence or socio economic status factors in the controlled high or low achieving groups. The study was conducted on a sample of 1427 students (690 males and 737 females) of class X with age between 14 and 18 years.

It was observed that the intelligence showed strongest relationship with achievement and relationship between intelligence and Self-
concept was not significant in extreme intelligence groups. Socio economic status showed weak positive relation with intelligence. Intelligence had a major impact on Self-concept, achievement etc. Also it was deduced that intelligence showed strong relationship with six areas under Self-concept and achievement wherein the achievement made a highly positive and significant contribution. Moreover, the socio economic status did not have a strong relation ship with Self-concept and other variables. In low intelligence group it was negatively correlated. Also the Self-concept showed a high positive and significant relationship with achievement and intelligence. On the gender front it was found that the boys are more superior to girls in all areas of Self-concept.

Shah (1978) studied the relationship of Self-concept to academic achievement of secondary school pupils. The aim of the study was to find the relationship in Self-concept and academic achievement. The domain further included the aspect of gender and also if there is significant difference in Self-concept of two classes i.e., class IX and class X. The sample of 764 students was spread over 10 schools in the district of Bhavnagar. The salient findings of the study state that there is no significant difference in Self-concept on the basis of the sex of the subjects at grade IX while at grade X it was found to be significant. The girls as a group do not indicate a higher positive Self-concept. Also there is no significant difference in the Self-concept of pupils of the two gads. The most important finding was that the
relationship between the Self-concept and academic achievement was significantly positive and linear.

Goswami (1978) conducted a study of Self-concept of adolescents and its relationship with scholastic achievement with Self-concept of the school going adolescents and its relationship to sex, intelligence, place of residence, scholastic achievement and adjustment. The study was conducted on a sample of 765 students of class X of Agra City and it was found that the global Self-concept of male adolescents was significantly different from the Self-concept of their female counterparts. Also the Self-concept was found to differ considerably among the urban and rural students. Moreover the global Self-concept and the scholastic achievement had a significant positive correlation.

Sharma (1979) while investigating the Self-concept, level of aspirations and mental health in relation to academic achievement. He concluded that the students with high Self-concept achieved academically greater as compared to the students with lower Self-concept. The main aim of the work was to find the difference in scholastic achievement between the students of low and high Self-concept.

Rhoda (1980) conducted a study to determine if specific teacher behaviours were related to the differences in mathematical achievement of four or five years old lower socio-economic status children across two curricular intervention treatments. Results indicated that more indirect teacher behaviour and the active
involvement of the student in the learning process are significantly more effective in facilitating student achievement than in a direct instructional passive receptive learning mode. Another finding was a significant negative correlation between the frequency of teachers' judgment of the correctness of a response and student achievement.

Singh's (1982) study indicates that self-concept and Ideal self-concept has positive relationship with some of the personality factors and negative with some of other personality factors. Both self-concept and ideal self-concept have positive loading on the second order factor of self-concept.

The classroom learning behaviour of pupils of different socio-economic strata and achievement in science has been investigated by Yadav (1984) with the following objectives. 1) to investigate the relationship between achievement of low and high socio-economic status and pupils' attention behaviour, response behaviour, pupils' soliciting teacher behaviour, pupils' seat work behaviour, pupil-pupil interaction, pupils' helping teacher behaviour, pupils' involvement in classroom managerial activity, pupils' out of school achievement related study time, POSAR library study time, home time, curriculum study time, etc. and to study the prediction of achievement of high and low socio-economic status pupils by their classroom behaviour, their achievement related efforts and their teacher behaviour. It was a multistage sampling process comprising of 80 students.

The major findings include that listening attentively had a positive correlation with achievement in science practicals in case if
high socio economic status pupils, while, it was positively correlated with achievement in theory in case of pupils belonging to the lower socio economic status. High socio economic status pupils exhibited negative correlations with achievement in practicals at the end of the session. Also the volunteer response and volunteer ideas yielded positive correlation with achievement in theory and total achievement in case of low socio-economic status pupils in the beginning of the session. Involvement in writing had a positive correlation with achievement in science theory, had a positive correlation with achievement in science practice and negative correlation with achievement in science theory in both the high and low socio economic status groups at the end of the session. Reaching teacher for removing the difficulties behaviour was positively correlated with achievement in they and total achievement in the beginning of the session, while at the end of the session correlation with achievement in theory was negative in case of low socio-economic status pupils.

Pupil interaction for discussing points was negatively correlated with pupils' achievement in theory in the case of low socio-economic status group in the beginning and in the case of high socio-economic status group at the end of the session. The dimension giving help to peers indicated a positive correlation with achievement in theory and total achievement of high socio economic status pupils in beginning of the session while towards the end of the session the group exhibited negative correlation. Interaction between pupils especially to questions indicated a negative correlation with achievement in theory
and total achievement in case of low socio-economic status pupils in the beginning of the session. On the other hand pupil helping teacher in handling of material had a positive correlation with achievement in theory in case of high socio-economic status pupils in the beginning of the session, while pupil helping teacher on blackboard was positively correlated with achievement in practicals in case of high socio-economic status pupils in the beginning of the session. “The teacher directed activities” indicated a positive correlation with pupils achievement in theory and total achievement in case of the high socio-economic status pupils on both the occasions, while the other group of pupils exhibited a negative correlation with achievement in theory.

Bharathi (1984) investigated the problem of Self-concept and achievement motivation in adolescents with the following objectives i) To study the aspects of Self-concept i.e. real, ideal Self-concept and the self ideal discrepancy ii) to study the achievement motivation and various Self-concept measures in different age groups, sex groups, and socio-economic status groups iii) to observe the interaction effects of age sex, socio-economic status and achievement motivation. The sample consisted of 360 students (180 males and 180 females) from high schools and junior colleges of Hyderabad and Secundrabad. The tools used included the Rao SES scale (1973), Mehta achievement motivation test (1969), Self-concept inventory and another tool to measure the ability, adjustment, personal social orientation and masculinity - femininity with a split half reliability of 0.86 and also had content validity.
The salient findings were that the age has a bearing on the perception of ability, aspiration as the older age group were found to perceive themselves as being less able, less aspiring and showed more dissatisfaction with their ability. No age differences were found in Self-concept with respect to adjustment. Similarly no significant age differences were found in personal social orientation aspect of Self-concept in the real Self-concept. The Self-concept aspect of different sexes were not depending on the differences in age. The strength of achievement motivation increased significantly from 12 years to 16 years. At different age levels, different Self-concept measures were found to be related with achievement. In the ability aspect on Self-concept no differences on the basis of sex were observed. The girls perceived themselves better adjusted and aspired than the boys. On the personality front boys scored more than the girls and also aspired to be more personally oriented. Boys perceived themselves to be more masculine and also would like to be more masculine than the girls. The girls were found to be more dissatisfied with their perceived self than the boys. However, no difference on the basis of sex were observed in achievement motivation.

The Self-concept of ability was not affected by the socio economic status (SES). In contrast the low SES subjects perceived themselves to be less adjusted and felt greater dissatisfaction with themselves in this regard. The low SES subjects wanted to be more socially oriented as compared to the high and middle SES pupils. Lastly the age variable had a different influence on masculinity –
femininity aspect of the Self-concept in different socio economic status groups. The middle SES group showed greater satisfaction with self in general and achievement motivation was highest among the high SES group and lowest in the low SES group pupils.

Smith (1984) conducted an experimental study which was designed to investigate the effect of co-operative and individualistic goal structures on achievement, effective outcomes and group process skills in 61 associate degree nursing students studying mental health nursing. The independent variable was the goal structure, co-operative of individualistic, within which the students worked. The dependent variables were 1) Achievement scores on quizzes and examination in the mental health nursing 2) Attitudes towards mode of learning as measured by the social interdependence scale 3) Attitudes toward the peers, teachers, resources interdependence, and academic self esteem, as measured by the classroom life scale 4) Attitudes towards working in the groups and toward caring for mental health patients as measured by the investigator developed scale and 5) amount of verbal interactions related to group task or maintenance as monitors by observers using the verbal interaction measure.

Students were randomly assigned to one of the four discussion groups that met for 50 minutes each week for eight weeks. The main findings of the study were that no significant differences could be observed between treatment groups in achievement, attitudes or verbal interaction. An interesting result showed the students who worked in small groups, whether co-operatively or individualistically talked five
times as often a student in the teacher led individualistic group. Although there were no significant differences in achievement measures (quizzes and examination), students in the individualistically structured large group came close to having a significantly higher course grade than did the experimental group.

Rosenshine (1970, 79, 80, 82) revealed that more student engagement with learning task lead to greater achievement. He analyzed data from the Beginning Teacher Evaluation Study and reported that engagement in recitation averaged 85 percent in contrast to 65 percent in seat work. Rosenshine (1983), Ross (1984) and Burns (1984) have shown similar contrast between recitation and seat work and have indicated that when seat work is used frequently, engagement is even lower.

Kayathri (1989) conducted a study into the effectiveness of Jerry Luca’s Memory Model in learning Botany. Objectives of the study were: (i) to develop and test the effectiveness of memory training model in studying botany along the lines of Jerry Luca’s Memory Model, and (ii) to assess the effectiveness of this memory training model in improving the achievement of students in botany and also the effectiveness of Luca’s memory training model over the traditional memory training techniques. Methodology: The sample of the study comprised 60 students both boys and girls (N=30, B=22, G=8) who were assigned for the experimental and control groups studying science in Dr. Alagappa Model higher Secondary School of Karaikudi. They were matched on age, sex, socio economic status,
study habits, IQ measure and achievement. The data were analysed using statistical techniques such as mean, SDs, and ‘t’ test.

Major findings of the study were: (i) It was found that training through Jerry Luca’s Memory model positively influenced retention of what was learnt in cytology and taxonomy in botany. (ii) Students who had been trained through Jerry Luca’s Memory Training model differed significantly in their achievement in botany from those students who had been trained through the traditional memory training techniques.

Passi and Sansanwal (1989) conducted a study on Effectiveness of strategy training in models of teaching: An experimental study. Objective of the study was: to study the effectiveness of training in Concept Attainment Model (CAM) and inquiry Training Model (ITM), in terms of (i) understanding, (ii) reaction towards the model, and (iii) resultant willingness of teacher educators to implement the teaching models in educational programmes. Methodology: Using the purposive sampling method, 45 teacher educators from 25 institutions were selected as the sample. A single group pre-test and post-test design was used in the study. A training programme of 56 hours was conducted, which included orientation in theory followed by explanation and discussion on 9i) lesson plan guide; (ii) teaching analysis guide; and (iii) lesson plan in a small group situation of four peers in quardro. At the end of the practice lessons on CAM and ITM, the Indore Theory Check Up and the five-point Reaction Scale was administered. Tools used comprised Theory Check Up for
CAM (Bruce, Joyce), Indore theory Check up for CAM, Reaction Scale for CAM, Theory Check Up for ITM, Indore, theory Check Up for ITM Reaction Scale for ITM and Willingness Scale for Implementation of CAM and ITM models. The collected data were analysed by using range, correlation, coefficient of variation, chi-square, and ‘t’ test.

Major findings of the study were (i) CAM and ITM training strategies in the form of lectures, theoretical discussions, demonstration and peer practice and perpetual feedback enhanced (a) teacher educators’ understanding of the theoretical aspects of CAM and ITM (b) brought out significant favourable changes in the teacher educators’ reaction towards CAM and ITM; and (c) teacher-educators’ willingness to implement the models of teaching in the teacher education programme, with the necessary support. (2) The level of understanding did not influence teacher educators’ reaction towards CAM and ITM; and (3) The CAM and ITM training strategies in the form of lecture, theoretical discussions, demonstration and peer practice, and perpetual feedback, in quadro, were found effective in terms of developing understanding, favourable reaction, and willingness to implement the models of training in teacher training programmes.

Baveja (1989) conducted an experimental study of information-processing models of teaching in schools of India. Objectives of the study were: (i) to analyse the thinking strategies or concept-building strategies used by learners of the group exposed to the model-based
programme (developed in biology of teaching in terms of Bruner’s ideal thinking strategies, (ii) to identity the most effective strategies of thinking from among the strategies used by the subjects, (iii) to identify the instructional conditions which favour selection of the most effective thinking strategies, and (iv) to determine the role of this model in developing inductive thinking in terms of the ability to form conceptual systems, abstractions or generalizations from discrete bits of information.

Major findings of the study were: (i) Subjects who were exposed to the teaching programme based on information-processing models of teaching, viz. concept-attainment and inductive thinking, demonstrated significantly higher mean values on concept-attainment, as compared to the mean values achieved by the subjects who were exposed to the traditional teaching programme. (ii) On comparing the mean scores of experimental and control groups, obtained on delayed post-tests, it was found that subjects who were exposed to the model-based teaching programme achieved a significantly higher mean value than the subjects who were exposed to the traditional teaching programme. (iii) Subjects who underwent the model-based teaching programme formed a significantly greater number of complex categories (conceptual system), as compared to the subjects of the control group who experienced the traditional teaching programme. (iv) It was found that in the final inductive-thinking lesson, significantly greater number of higher-order generalizations were made (interrelating the concepts formed and extrapolating (going
appreciably beyond what is given). This suggests that the inductive-thinking model was effective for teaching inductive mental process requiring extrapolation, i.e. processing from specific data to generalization. (v) the mean values obtained on the number of categories formed and the number of abstract concepts formed in the final inductive-thinking lesson were significantly higher than those formed in the initial lessons.

Kumari (1992) in the study "Effects of training strategies on the teaching competence of students-teacher for teaching through Social Inquiry Model" found that the willingness to use the Social Inquiry Model in schools was favourable in respect of all the three experimental groups of student teachers. This implies that after trying out the model in the real school situation the student teachers realized that the model can be worked with the students in Indian situation. They perhaps felt that the model is useful in teaching social sciences and it is suited to Indian classroom situation without any financial burden on the teacher or on the school. The study has implication for social studies teachers. With the suitable training procedure the teachers can themselves find out their training needs and then transfer their training skills in different situations. The knowledge of Social Inquiry Model will help them in developing a teaching style for teaching social studies.

Yadav (1995) conducted a study "Classroom learning behaviour of students of different Self-concept levels and their achievement in Geography at 10+2 stage" comprises of the following
objectives  

i) Investigation of the student classroom learning behaviour and achievement of students of low and high Self-concept levels  

ii) The relationship between the teacher behaviour and achievement of students in context of their Self-concept levels.  

iii) to investigate the student classroom learning behaviour in light of Self-concept and also to investigate the same in the beginning and toward the end of the academic session. The investigator also tried to investigate teacher behaviour as a function of beginning and end of the academic session wherein to compare the teacher explanation behaviour, questioning behaviour, response management behaviour, helping behaviour, supervision behaviour, management behaviour etc. The other objectives included were the prediction of achievement based on the classroom learning behaviour and teacher behaviour an, also the proportion of time to different behaviours in the classroom.  

The sample consisted of 1000 students divide in 25 sections of 40 students each from the Xith class of Geography in various schools in the Gurgaon and Rewari Districts. Out of the above sample a group of 50 students with highest Self-concept scores with restriction of two students from each section and similarly for low Self-concept scores were formed for further investigations. The tools used for investigations included, classroom learning behaviour observation system (CLBOS) designed and constructed by the investigator herself, Self-concept questionnaire by Sarawat R.K. and also an achievement test in geography designed and developed by the investigator.
The main findings of the study were that the high Self-concept group of students exhibits positive relationship between listening attentively behaviour and achievement both in the beginning and towards the end of the session, whereas, the low Self-concept group exhibits the same only towards the end of the session. The student involvement in disruptive behaviour is significantly negatively related with achievement both in the beginning and towards the end of the academic session in the high Self-concept group of pupils, whereas the low Self-concept group exhibits the same relation only towards the end of the academic session. Volunteers response and volunteers ideas are positively significantly related to achievement throughout the academic session in the group with high Self-concept, wherein the same is positively significantly related with achievement only towards the end of the academic session. In case of both the high and low Self-concept groups of pupils, taking notes from the blackboard has no significant relationship towards the end of the academic session.

The correlation between the evades seat work and achievement is negatively significant only in the beginning of the academic session in case of pupils of high Self-concept, whereas, in case of low Self-concept group the behaviour is negatively significantly correlated towards the end of the academic session only. Self directed activities indicate no relationship with achievement in the beginning and towards the end of the academic session in high Self-concept group of students. In case of low Self-concept group, there is a positively significant relationship between behaviour and achievement in the
beginning of the academic session and negatively significant relationship towards the end of the academic session. Low Self-concept students tend to be more helping to other students both in the beginning and towards the end of the academic session than the high Self-concept students. On the other hand, the behaviour of accepting help from other students in the classroom in both the high and low Self-concept groups do not differ significantly.

Venkatamaiah et. Al. (1998) conducted study on ‘Self-concept of Urban School Children: Relationship with selected Personal Social Variables’ – Result indicated that majority of urban school children had high and average self-concept. There exists no relation between gender, birth order, socio economic status, academic achievement and self-concept. Only chronological age and family type had relation with the self-concept levels of urban school children.

Bajpal (1998) conducted study on ‘Effect on Age, sex, and Locate on self Concept of High School Tribal Adolescents’ This study aims of comparing the three dimension of perceived, ideal and social self-concept belonging to, two different genders two different locale and two different age groups. The finding of study revealed significant effects of locale, sex and age of the subjects of self-concept.

Renu (2001) conducted a study on Effect of Social Inquiry Model on Pupils Achievement in Social Sciences and Their Self-concept. Objectives of the study were: I) to compare the mean achievement scores of two groups of pupils, taught social sciences
with and without use of Social Inquiry model, before the experimental treatment. ii) to compare the mean achievement scores of two groups of pupils, taught social sciences with and without use of Social Inquiry Model, after the experimental treatment. iii) to compare the mean gain achievement scores of two groups of pupils, taught social sciences with and without use of Social Inquiry Model, after the experimental treatment. iv) to compare different percentile scores of achievement of two groups of pupils, taught social sciences with and without use of Social Inquiry Model before the experimental treatment. v) to compare different percentile scores of achievement of two groups of pupils, taught social sciences with and without use of Social Inquiry Model, after the experimental treatment. vi) to compare the mean self-concept scores of two groups of pupils, taught social sciences with and without use of Social Inquiry Model, before the experimental treatment. vii) to compare the mean self-concept scores of two groups of pupils, taught social sciences with and without use of Social Inquiry Model, after the experimental treatment. viii) to compare the mean gain self-concept scores of two groups of pupils, taught social sciences with and without use of Social Inquiry Model, after the experimental treatment. ix) to compare different percentile scores of self-concept of two groups of pupils, taught social sciences with and without use of Social Inquiry Model, before the experimental treatment. x) to compare different percentile scores of self-concept of two groups of pupils, taught social sciences with and without use of Social Inquiry Model, after the experimental treatment.
Main findings of the study were: i) At the end of the experimental treatment the group of students taught social sciences through the social inquiry model scored significantly higher on the criterion achievement test than the group of students taught through the conventional method. ii) There was no significant difference between the pre-test mean achievement scores of the experimental and control groups. iii) At the end of the experimental treatment, the group of pupils taught social sciences through social inquiry model showed a significantly higher gain score on the criterion achievement test than the group of pupils taught through the conventional method. iv) The difference between the different percentile scores of achievement of the experimental and control groups was not considerable at the pre-test stage. V) The difference between the different percentile scores of achievement of the experimental and control groups was quite considerable at the post-test stage. vi) The difference in the mean Self-concept scores of the experimental and control groups was not significant at the pre-test stage. vii) At the end of the experimental treatment, the group of the pupils taught social sciences through the social inquiry model stained a significantly higher mean scores on the test of Self-concept than the group of pupils taught through the conventional method. viii) At the end of the experimental treatment, the group of the pupils taught social sciences through the social inquiry model attained a significantly higher mean gain score on the test of Self-concept than the group of pupils taught through the conventional method. ix) The difference between the
different percentile scores of the Self-concept of the experimental and control groups was not considerable at the pre-test stage. x) the difference between the different percentile scores of the Self-concept of the experimental and control groups was quite considerable at the post-test stage.

2.2.0 Studies Related to Memory Model

One of the most important outcomes of the Memory model is the students’ recognition that learning is not a mysterious, innate process over which they have no control. As Ian Hunter (1964) points out:

The mastery of some simple mnemonic system may lead some people to realize, for the first time, that they can control and modify their own mental activities. And this realization may encourage them to undertake that self-critical experimentation with their own learning and remembering procedures which is such an important part of intellectual development.

Thus, awareness of how to learn and how to improve learning results in a sense of mastery and control over one’s future.

Recent research on memorization, especially on the use of “link words” to facilitate associations, has produced some dramatic effects on the rate at which students can acquire information and concepts. In some applications the instructors generate the mnemonics. In others the students develop their own. In both uses the students are organized into learning communities who possess knowledge about how to acquire, store, and retrieve information. Research by Joel
Levin, Pressley, and their colleagues (1981) has stressed the importance of providing students with cognitive control over learning strategies—the "metacognitive" dimension of being a student. In other words, the students are not taught simply to engage in a learning activity. They are taught how to learn and how to use knowledge of learning to increase their effectiveness.

Over the last 20 years an important line of research has been conducted on what is termed the link-word method. The result is a considerable advance in knowledge about memorization as well as the development of a system that has practical implications for the design of instructional materials, for classroom teaching and tutoring, and for students. The method has two components, assuming that the learning task is to master unfamiliar material. The first component provides the students with familiar material to link with the unfamiliar items. The second provides an association to establish the meaning of the new material. For example, when the task involves new foreign-language words, one link ties the sounds to those of words in English. The second ties the new word to a representation of its meaning. For example, the Spanish word carta (postal letter) might be linked to the English word cart and a picture showing a letter inside a shopping cart (Pressley, Levin, and Delaney, 1981).

An important finding from the research is that people who master material more quickly and who retain it longer generally use more elaborate strategies for memorizing material. They use mnemonics—assists to memorization. The less-effective memorizers
generally use “rote” procedures. They “say” what is to be memorized over and over again until they believe it is implanted in their memories.

A second important finding is that devices like the link-word method are even more elaborate than the methods used by the better “natural” memorizers—that is they require more mental activity than do the rote procedures. When first confronted by the presidential illustrations discussed earlier, many teachers respond, “But why add all the extra stuff? Isn’t it hard enough to master the names of the presidents and their order? Why add words like “link” and “stick” and pictures of sand castles on a summer beach?”

The answer is that the additional associations provide a richer mental context and the linking process increases the cognitive activity. The combination of activity and associations provides better “anchors” within our information-processing systems.

Does the key-word method help students who are ordinarily good, poor, and average memorizers? Apparently so (Pressley and Dennis-Rounds, 1980). Further, it appears to help students who are below average in verbal ability, who might have been expected to have greater difficulty with complex learning strategies. In addition, as students use the method, they seem to transfer it to other learning tasks. In other words, mnemonics can be taught so that students can use them independently of the teacher. The students, in other words, can develop systems for making up their own links.
Finally, even young (kindergarten and first-grade) students can profit from mnemonics (Pressley et al., 1981). Obviously, they have greater difficulty generating their own links, but they can benefit when links are provided to them.

The effect sizes from this research are impressive. Even in Atkinson's (1975) early studies the link-work method about 50 percent more effective than conventional rote methods. That is, students learned half-again more material in the same time period as students not using link words. In some of the later studies, it has been twice as efficient or more (Pressley, 1977; Pressley, Miller, and Levin, 1981). Just as important, retention has been facilitated. That is, more is remembered longer when link words are used.

As we stated earlier, there are two obvious uses of this research in teaching. The first is to arrange instruction so as to make it as easy as possible for students to make associations and to discourage isolated rote drill. The second is to teach students to make their own links when they are studying new material.

In a very interesting recent study, Levin and Levin (1990) applied the method to teach whist are generally considered "higher-order" objectives – in this case, a hierarchical system for classifying plants. They compared the effectiveness of using links to familiar concepts with a traditional graphic representation, with the hierarchy presented in a chart featuring boxes connected by lines. The links not only facilitated the learning and remembering of the hierarchical scheme, but also affected problem solving.
A number of popular “memory systems” have been developed; none of them backed by the research that Pressley, Levin, and their associates have generated. However, some of these systems use sensible principles that are congruent with that research. Lorayne and Lucas’s The Memory Book (1974) is one such, and we have drawn on it for some suggestions of procedures to use with children. Lorayne and Lucas quote Aristotle:

It is the image-making part of the mind which makes the work of the higher processes of thought possible. Hence the mind never thinks without a mental picture. The thinking faculty thinks of its form in pictures. (Lorayne and Lucas, 1974). Lorayne and Lucas built their model to increase (1) attention to what is to be learned; (2) the senses involved in attending; and (3) the associations we make between the new material and things that have previously been learned.

Weinstein and Stone, 1993 conducted a study on Supplemental Instruction study strategies (those employed during SI sessions and those used by students independently) the purpose of this is to remind SI Supervisors and Leaders why it is important to employ a wide array of strategies and be strategic in their use. Some strategies were found to be more useful for short-term memory of new material and others are more essential for long-term memory retention. However, all of them are essential in most classes for overall grade achievement and deep learning of the material. They reported that major variables that separate expert and novice learners: experts know more; knowledge
held by experts is better organized and more integrated; experts have more effective and more efficient strategies for accessing and using their knowledge; experts seem to have different motivations for acquiring and using their knowledge; experts evidence more self regulation in both the acquisition and application of their expertise. They continue by stating that four kinds of knowledge are needed by expert learners: knowledge about themselves as learners (e.g. their cognitive characteristics); knowledge about the cognitive demands of the academic tasks; knowledge of a wide variety of strategies and study skills; and prior knowledge of the content material (pp.3-5). They conclude by sharing essential steps to establish executive control in studying: create a study plan and revise it on the basis of personal feedback and grades received throughout the academic term; select the specific strategies or methods they will use to achieve their goals; implement the methods they have selected to carry out their plan; monitor and evaluate their progress on both a formative and summative basis; if students are not reaching their goals, they must modify what they are doing; make an overall evaluation of what was done and decide if this is the best way to go about meeting similar goals in the future.

Dembo (1998) conducted a study on the effectiveness of Memory Model that many students learn material using different strategies based on making the analogy that most people learn as computers would: Information is inputted, analysed and then can be used for a task. Information must first be received, then entered into
short-term memory, moved into long-term memory and finally recalled for use with a task (e.g., completing examination questions). While somewhat mechanical, it provides a basic framework to add newer theories of learning that are more sensitive to affective and cognitive learning preferences that attain to individual differences of gender and culture. These are powerful issues that have an important impact upon student achievement.

The following outlines provides suggestions of study strategies that students can employ. Some of these strategies can be done alone, other work best in small groups. The strategies have been broken down into the categories defined by the Information Processing Model. The key for comprehension of the material. The final section provides some suggestions for this process.

1. Improve Short-Term Sensory Store or Sensory Register (Activities to increase initial awareness of new information.)

   - Watch for verbal and visual from professor regarding importance of different pieces of information presented during the lecture.
   - Move to front of class to clearly hear and to see charts, graphs, and board work.
   - Arrive early to class and pay attention to Professor's comments during the first minutes at beginning of class and during the final minute when many students are already stopped taking notes and preparing to depart the classes.
• Pre-read textbook chapter and study new vocabulary words to increase receptivity to newly presented lecture information.

• Study the course syllabus to identify major concepts, schedule of upcoming topics, and other course-related information.

• Experiment with new ways to improve original lecture note taking (e.g. mind maps, cornell method).

II Methods to Improve Short-Term and Long-Term Memory by use of Learning Strategies

A. Improving Short-Term Memory of New Material

1) Recitation Strategies (Reinforce material just exposed to by repeating it)

• In a group with other students take turns reading lecture notes aloud so that others can contribute missing material and for students to discover that the need to improve their note taking approach since they are missing material.

• Throughout the day review new material from the class. Write material on note cards to more easily memorize information.

• Use mnemonic devices to increase memorization of new material.

• Use of abbreviations while taking lecture notes to save time and keep up with both the lecture and visual images on the board by the professor.
• Employ specific strategies when reading textbook material the first time (e.g., SQ3R, reading with purpose, integration of lecture notes with textbook)
• Mark and underline key concepts in the textbook.
• Keep list of new words and concepts and look up in textbook glossary.
• Recopy lecture notes quickly after class is over to increase memorization of material.

B. Improving Long-Term Memory of New Material

1) Elaboration (Taking new material and extending it)
   • Create analogies with new Information linking it with material already learned.
   • Review lecture and textbook material by paraphrasing, applying, and integrating it with other material.

2) Organisation (Taking new material and reorganizing it into meaningful ways)
   • Create visual matrix to reorganize material into logical categories.
   • Draw concept maps or continuum lines to show relationships among concepts.
   • Create time lines to display sequences of events.
   • Identify steps for solving problems (e.g., identifying needed formulas for solving problems, identifying the steps to solve)

III. Comprehension-Monitoring Strategies
• Approach each class as a unique learning experience and carefully employ the specific learning strategies required for the academic task. This will probably require frequent changes and modifications throughout the academic term.

• Create a time management plan to guide studying for each course. Then monitor results from examinations to assess changes to the schedule.

• Create mock exams to practice answering objective and writing questions under time pressure before the official examinations. Many textbooks have study questions at the beginning or end of the chapter. Part of the SQ3R reading strategy and the Cornell note-taking method is self-testing the material.

• Provide informal quizzes where students can test one another regarding course comprehension before major exams occur in the class.

• Conduct a post-exam survey after each major examination where students can discover relationships between the assigned grade and behaviour of the student (e.g., amount of time studied, amount of textbook reading, types of questions difficult to answer on exam).

• Take advantage of counselling and testing services on campus to discover more about the student (e.g., academic content testing, student motivation, learning
preferences). This can provide valuable information for the student to consider about their strengths and weaknesses.

The Information Processing Model provides a basic framework for a student to develop a more effective plan for achieving their academic goals in college. The most important concept that underlines this approach to learning is that students have significant control over their academic achievement.

Sharma, (2003) conducted a study to compare the effectiveness of Mastery Learning Model and Memory Model on Students’ Achievement in Geography and their Self-Concept. A sample comprised of one hundred twenty students studying in three sections of IX class of K.M.Public Senior Secondary School, Bhiwani. Each section comprised forty students. One section formed the control group and the other two sections formed the two experimental groups. A pre-test post test controlled group experimental design was followed and the following conclusions drawn:

1. This study shows that the post-test achievement mean scores of the experimental and control groups, controlling for intelligence and socio-economic status, differ significantly in favour of the experimental groups. This implies that the students who were taught Geography through Mastery Learning Model and Memory Model have shown significant improvement in their achievement in Geography than the students who taught through conventional
method. This suggests that Mastery Learning Model and Memory Model contribute in raising the achievement of students.

2. The group of students taught Geography through Mastery Learning Model have shown significantly higher achievement than the group of students taught Geography through Memory Model.

3. The group of students taught Geography through Memory Model have shown significantly higher gain in achievement than the group of students taught Geography through conventional method.

4. The group of students taught Geography through Mastery Learning Model have shown significantly higher gain in achievement than the group of students taught Geography through Memory Model.

5. This study shows that the post-test self-concept mean scores of the experimental and control groups, controlling for intelligence and socio-economic status, differ significantly in favour of the experimental groups. This implies that the students who were taught Geography through Mastery Learning Model and Memory Model have shown significant improvement in their test of self-concept than the students who taught through conventional method. This suggests that Mastery Learning Model and Memory Model contribute in raising the self-concept of students.
6. The group of students taught Geography through Mastery Learning Model have shown significantly higher self-concept than the group of students taught Geography through Memory Model.

7. The group of students taught Geography through Memory Model have shown significantly higher gain in test of self-concept than the group of students taught Geography through conventional method.

8. The group of students taught Geography through Mastery Learning Model have shown significantly higher gain in test of self-concept than the group of students taught Geography through Memory Model.

Nivedita (2003) conducted a comparative study of the effectiveness of Memory and Mastery Learning Models on Students' Achievement in English Grammar and their Self-concept. The objectives of the study were i) To compare the mean scores, on the criterion achievement test in English Grammar, of the three groups of students, to be taught English Grammar with the use of Memory Model (MM), Mastery Learning Model (MLM) and Conventional Method (CM) of teaching, before the experimental treatment. ii) To compare the mean scores, on the criterion achievement test in English Grammar, of the three groups of students, to be taught English Grammar with the use of MM, MLM and Conventional Method of teaching, after the experimental treatment. iii) To compare the mean gain scores, on the criterion achievement test in English Grammar, of the three groups of students to be taught English Grammar with the
use of MM, MLM and Conventional Method of teaching, after the experimental treatment. iv) To compare the mean self-concept scores of the three groups of students to be taught English Grammar with the use of MM, MLM and Conventional Method of teaching, before the experimental treatment. v) To compare the mean self-concept scores of the three groups of students, to be taught English Grammar with the use of MM, MLM and Conventional Method of teaching, after the experimental treatment. vi) To compare the mean gain scores, on the test of self-concept of the three groups of students, to be taught English Grammar with the use of MM, MLM and Conventional Method of teaching, after the experimental treatment.

Main conclusions of the study were: 1) This study shows that the post-test achievement mean scores of the experimental and control groups, controlling for intelligence and socio-economic status, differ significantly in favour of the experimental groups. This implies that the students who were taught English Grammar through Memory Model and Mastery Learning Model have shown significant improvement in their achievement in English Grammar than the students who taught through conventional method. This suggests that Memory Model and Mastery Learning Model contribute in raising the achievement of students. 2) The group of students taught English Grammar through Mastery Learning Model have shown significantly higher achievement than the group of students taught English Grammar through Memory Model. 3) The group of students taught English Grammar through Memory Model have
shown significantly higher gain in achievement than the group of students taught English Grammar through conventional method. 4) The group of students taught English Grammar through Mastery Learning Model have shown significantly higher gain in achievement than the group of students taught English Grammar through conventional method. 5) The group of students taught English Grammar through Mastery Learning Model have shown significantly higher gain in achievement than the group of students taught English Grammar through Memory Model. 6) This study shows that the post-test self-concept mean scores of the experimental and control groups, controlling for intelligence and socio-economic status, differ significantly in favour of the experimental groups. This implies that the students who were taught English Grammar through Memory Model and Mastery Learning Model have shown significant improvement in their test of self-concept than the students taught through conventional method. This suggests that Memory Model and Mastery Learning Model contribute in raising the self-concept of students. 7) The group of students taught English Grammar through Mastery Learning Model have shown significantly higher self-concept than the group of students taught English Grammar through Memory Model. 8) The group of students taught English Grammar through Memory Model have shown significantly higher gain in test of self-concept than the group of students taught English Grammar through conventional method. 9) The group of students
taught English Grammar through Mastery Learning Model have shown significantly higher gain in test of self-concept than the group of students taught English Grammar through conventional method. 10) The group of students taught English Grammar through Mastery Learning Model have shown significantly higher gain in test of self-concept than the group of students taught English Grammar through Memory Model.

It is clear from the survey of researches conducted in India related to Social Inquiry Model and Memory Model that a very few studies have been conducted so far to test their effectiveness in Indian situation and to adopt them to peculiar needs (Buch 1974, 1979, 1987, 1991 & 1997). The need to test the effectiveness of Social Inquiry Model and Memory Model in the teaching of social science particularly has not been attended to adequately. Since the subject is of much importance in the school curriculum, research to use Social Inquiry Model and Memory Model to improve students’ achievement in the social science needs to be conducted alongwith it’s effect on students self-concept. This was the reason which motivated the investigator to take up the present investigation.