SUMMARY

INVESTIGATOR
ANA BALI

SUPERVISOR
DR. MUBARAK SINGH
(Prof., Department of Education
University of Jammu)

Introduction

Educational psychologists have been incessantly trying to find out the importance of the factors which effect learning. Metacognition, motivation, locus of control, self-efficacy and home environment play significant role in student learning. These key factors have to be properly understood by the educators to maximize learning among students. Various researches suggest that the self-system which includes constructs such as self-efficacy, self-esteem, locus of control, motivation- is a complex, interdependent system and supports both metacognitive functions and academic performance (McCombs, 1986). Hence, the constructs of self-system predict achievement.

The importance of the self-system is very important for determining the quality of academic achievement. There are plenty of factors that might influence a child’s cognitive development or processes and belief system which include parental, societal and school influences also. These sources of influence can affect child’s self-esteem, self-confidence and motivation for acquiring academic success, either explicitly or implicitly or in both ways. In spite of such contributions from extraneous factors, children themselves are largely accountable for their own cognitive development (McCombs, 1987). They thus work unconventionally for achieving their goals. This intrinsic need to learn and achieve self-determination promotes learning with the development of cognitive, motivation and affective processes.

Self-determination and self-control are largely determined by the interaction of various components of the self and the metacognitive systems of an individual. McCombs suggested that self-directed achievement is attained by
nurturing positive attribution and belief patterns that are responsible for maximizing self-worth. Metacognitive and cognitive processes are believed to enhance functional attribution patterns. In this respect, children who develop a positive attribution flourish whereas those who fail to develop positive attributions are in dilemma of developing dysfunctional self and metacognitive systems (McCombs, 1987).

One’s self-efficacy, the expectations that individuals hold about their capabilities to perform certain tasks influence self-regulation. Bandura (1986, 1997) has argued that “whether or not people will undertake particular actions in the environment, attempt to perform particular tasks, or strive to meet specific goals depends on whether or not they believe they will be efficacious in performing these actions under the given circumstances”. Self-efficacy beliefs are conceptualized as highly specific control related beliefs which concern one’s ability to produce a particular outcome at a particular time. The stronger one’s perceived self-efficacy, the more one will exert effort and persist at a task. Thus, for example, faced with a challenging intellectual task, the student who believes he has the capabilities to perform it effectively will be more likely to undertake it and to persist at the task than will the student who has doubts about his ability to perform it successfully. Self-efficacy beliefs have been partially explored in the context of childhood socialization (Bandura, 1986, 1997) because it is believed that early experiences with success and failure lead people to develop fairly stable conceptions of their self-efficacy in different domains.

Although the self-system provides the necessary motivation and affective states to foster a child’s progress toward self-determination, it is the metacognitive systems that oversee the means to reach that goal. In order for the metacognitive systems to work properly, children must have adequate information about both strategic knowledge and metacognitive activity. Hence, positive attributions or high motivation to succeed would be of little use to an individual who does not have the necessary accompanying strategic knowledge and metacognitive skills. But in the presence of strategic knowledge and
metacognitive skills, motivation and affective states are very advantageous in promoting progress towards self-determination. Metacognition, motivation, self-efficacy, locus of control and home environment are important aspects of education and play a vital role in the field of education. Why are some students more motivated to learn than others? Why do some students learn more effectively than others? Teachers, who help individuals, learn new skills and behaviours deal with such questions in their professional practice. More specifically, school teachers address these questions as they work with students who want to increase their levels of academic success. The answers to these questions are likely to be found by combining knowledge in many fields, for example personality, cognition and learning.

There appears to be a relationship between academic achievement and certain personality variables including motivation, metacognition, self-efficacy, locus of control and home environment. Locus of control appears to be related to both metacognition and motivation primarily because of the element of internal control or self-regulation. Self-efficacy may also be related to both metacognition and motivation because it involves one's belief that he or she is able to perform a task.

Metacognition, motivation, self-efficacy, locus of control and home environment affects academic achievement. When students get low scores on test and low scores on the task, gives leads an individual to go for mental processing to explain to their own selves why the results are like this. When students achieve good results, they tend to attribute the result to two internal factors: their own ability and effort both. When they fail, they attribute the cause of these internal factors or it may be that, they start rationalizing and discarding personal failure to external causes, such as extreme task or filthy or just hard luck. This tendency of attributing success to one’s own ability and effort helps in promoting success and also develops confidence in the students to face challenges and unfamiliar tasks in the future to come.
More the students aware of their thinking processes more they learn and more they have control over matters like their goals, dispositions and attention. Self-awareness leads to self-regulation. If students are aware about their strengths and weaknesses they tend to reach their goals easily, i.e. getting success in whatever they do, instead of being directionless in life they become more focused and attentive to their priorities in life. Self-system is a wide term comprising self-concept, self-efficacy, self-esteem, likewise. In the present study, variables like locus of control, self-efficacy and motivation were considered as part of self-system. If one’s self-system is good, she or he can achieve success academically also, as they become accountable for whatever they learn, do and achieve. Metacognition and Self-system are internal variables, along with these many external variables are responsible for one’s academic success. The investigator has considered home environment as one of the major external variables which is highly responsible for predicting academic success. Home is where an individual is surrounded by his or her near and dear ones, and it is also a mini society where an individual cherishes all the beautiful moments of life, faces problems and find solutions of problems. One’s personality is deeply rooted in the type of home environment he or she gets or it is a replica of child rearing practices adopted by the parents and guardians. Metacognition, Self-system (Motivation, Locus of Control and Self-efficacy) and Home environment are responsible for one’s academic achievement as evidenced by dearth of researches conducted individually or collaboratively in the said field; there are studies which are contradictory also.

**Significance of the Study**

The world is changing every now and then, and in this changing world every parent, teacher and policy maker realized the importance of children being self-directed, self-dependent and independent learners who are not beneficial for their family and themselves but are beneficial for the society too. School system needs modification as it focuses still now on educating children and good results but the main focus which should be the child itself still remains unheard. Though new policies and paradigms have been devised every now and
then but the priority area has not shifted from ‘What to learn’ to ‘how to learn’ and ‘When to learn’. A good learner is what we require today, the one who is accountable for one’s own actions and one’s own results. We need a person who can take the initiative of taking the responsibility of his or her actions. As we are living in a world of competition, we face new problems by each passing day. We need problem solvers and not problem posers. Rising conflicts inter and intra are there, students particularly of adolescent age face many problems, with oneself and with others also. The main shift from virtual to real world start emerging and students at this age suffers from various stresses and strains. A pressure of passing or appearing in board examinations become challenging, to attain good marks, pressure of teachers, parents and one’s own serve as hindrance to metacognition, locus of control, motivation, self-efficacy and home environment. Many students who cannot cope with all these situations become so vulnerable that they take some extreme steps in life like that of suicide, sudden heart attacks and such like diseases.

Earlier works done in the field of inter and intra variables, focussed greatly on motivation, but now the attention have been shifted to metacognition and self-efficacy. This shift in educational psychology is necessary for effective learning among students, which further leads to effectiveness of self-system. Home environment along with self-system and metacognition contributes a lot in effective learning and academic success among students. There are wide gaps which have been found while reviewing related literature, as there were studies which suggested that variables like metacognition, motivation, locus of control, self-efficacy and home environment affects academic achievement and some contradict with the same. Rotter (1966) conducted a study on locus of control and found that ‘individuals with the external locus of control believe that their actions have a minimum influence on the outcomes and there is little they can do to alter them. People with the internal locus of control believe that their results are conditioned by their actions and largely under their control. Internal control students believe that their school results (success or failure) depend on their abilities, skills or efforts whereas external control students think that their
school results are just a function of luck, teachers or another external factor (Schunk, Pintrich, Meece, 2008). Internality and externality play an important role in the student’s perception of responsibility for his own process of learning.’ Dunning et al. (2003) and Thiede et al. (2003) found that ‘metacognition is a significant predictor of academic performance. Students with a higher degree of metacognition achieve a higher level of academic performance than those with a lower level of metacognition.’ Also, review show that these variables were studied independently, whereas in the present study an attempt has been made to study these variables collectively, and hence the main variable academic achievement was studied. Academic achievement is an issue which is deeply rooted in the educational system. It depicts not only the performance of the student but also it is a measure of assessing teacher’s performance.

Class 10th is the most crucial one as the child is surrounded by stress and pressure from all sides. His or her own expectations from himself or herself, pressure of parents, pressure of school and teachers, pressure of selecting career or profession and likewise. Daily News and Analysis on December 17, 2015 reported that the then Human Resource and Development Minister Mrs. Smriti Irani reported 8068 cases of students committed suicide in 2014, out of which 7753 happened in states while 315 were reported from Union Territories. An article published in ‘India Today’ with its heading ‘Growing number of students commits suicide over exams. Why students are under stress?’ by Chengappa, R. (March 28, 2005) stated that ‘students are under stress because of various factors like fear factor: psychiatrists say a rising number of students suffer from traumatic disorders related to the fear of examinations, lack of counseling: forty percent of the students in Delhi surveyed feel they are overwhelmed by examinations and want guidance, too much at a time: those aspiring to get into professional colleges prepare for over dozen entrance examinations apart from tuitions in the major subjects, the parent trap: not just schools but parents also go to extreme levels to force their children into pushing
up their grade. The article also highlighted that children complain that strict curfews and a frigid atmosphere at home add to the stress at exam time.‘

In order to tackle the problems that children experience and identified needs of the school, it seems useful to explore whether teaching children with metacognitive skills and knowledge of self-system viz., self-efficacy, locus of control and motivation; and home environment will improve performance and enhance their chances of completing school and reducing stress associated with poor performance and academic failure or not. All the independent variables undertook in the study like metacognition, motivation, locus of control, self-efficacy and home environment; and dependent variable i.e. academic achievement are related to each other. This is very evident from the number of studies conducted in the field like Gadbois and Sturgeon (2011) investigated that self-inflicted barriers to achieving better academic performance among first-generation students is directly correlated to their lack of self-belief (efficacy) that they can achieve good academic results. Joseph and Baker (2014) reported parental influence as a source of positive academic efficacy. The sample reported the need to live up to high parental expectations and it was also found that parental encouragement impacted their beliefs in their academic abilities. If parent encouragement 50 was constant, then that was a motivator for students to perform even harder and it provided the confidence for them to be successful. It is with this in mind that this study explored metacognition, motivation, locus of control, self-efficacy and home environment as factors in academic performance.

The findings of the study will be of immense benefit to the educationists, administrators, policy makers, students, counselors, government and curriculum planners. The findings of the study will help planners in setting out new plans and policies on how to educate the secondary school students and how to make them useful members of the society. So, keeping into consideration the importance of metacognition, self-system viz., motivation,
locus of control and self-efficacy and home environment, the researcher intended to undertake the present investigation.

**Statement of the Problem**

There are many psychological variables which affect academic achievement. The investigator intended to study variables i.e., metacognition, motivation, locus of control, self-efficacy and home environment and their effect on academic achievement. Various studies conducted so far indicate the divergence of results and hence, the present problem is being studied which is briefly stated as under:


**Operational Definitions of Key Terms**

1. **Academic Achievement:** Academic achievement or academic performance is the outcome of education – the extent to which a student, teacher or institution has achieved their educational goals. For the present study, academic achievement was determined on the basis of scores obtained by students in previous examination.

2. **Metacognition:** Metacognition has been described as an individual’s knowledge of their own cognitive processes and their ability to control these processes by organizing, monitoring and modifying them as a function of learning. It refers to the ability to reflect upon the task demand and independently select and employ the appropriate reading, writing, or learning strategy. Metacognition is an important aspect of student learning. It involves self-regulation, reflection upon an individual’s performance strengths, weaknesses, learning and study strategies. Metacognition is the foundation upon which students become independent readers and writers. It also underlies student’s abilities to generalize problem solving strategies. For the present study,
metacognition was determined on the basis of scores obtained by students in the Metacognition Scale devised by the investigator.

3. **Self-System:** The self-system consists of an inter-related system of beliefs and processes. It determines whether an individual will engage in or disengage in a given task; it determines what is attended to from moment to moment. In the present study, self-system included motivation, locus of control and self-efficacy (McCombs, 1986) which is described as follows:

(i) **Motivation:** Motivation has been described as something which prompts, compels and energises an individual to act or behave in a particular manner at a particular time for attaining some specific goal or purpose. For the present study motivation was determined on the basis of scores obtained by the students in the Achievement Motivation Scale devised by Dr. (Mrs.) Pratibha Deo and Dr. (Mrs.) Asha Mohan.

(ii) **Locus of Control:** Locus of control is concerned to be a continuum between decision outcomes and personal behaviours, attributes or capacities. At the one of the continuum are externals who believe that their academic performance is not under their personal control but rather is under the control of powerful others, institution, teachers’ perception or fate. At the other end of the continuum are internals who believe that their academic performance is dependent upon their own behaviour and efforts. For the present study, locus of control was determined on the basis of scores obtained by the students in the Levenson’s Locus of Control Scale prepared by Sanjay Vohra.

(iii) **Self-Efficacy:** Self-efficacy has been described as belief that one is capable of performing well in academic scenario to attain the desired result, i.e. it captures a student’s self-belief that he or she
can engage and complete academic course related tasks. For the present study, self-efficacy was determined on the basis of scores obtained by the students in the Self-efficacy Scale devised by Dr. G.P. Mathur and Dr. R.K. Bhatnagar.

4) **Home Environment:** Home environment has been described as one where there is proper reward to strengthen the desired behaviour, a keen interest in and love for the child, provision of opportunities to express its views freely, where parents put less restrictions to discipline the child and where the children are not compelled to act according to parental desires and expectations. For the present study, home environment was determined on the basis of scores obtained by the students in the Home Environment Inventory devised by Dr. K.S. Mishra.

**Objectives of the Study:**

1. To study the levels of metacognition, motivation, locus of control, self-efficacy and home environment of secondary school students on the basis of gender, type of institutions and locality.

2. To study the effect of metacognition, motivation, locus of control, self-efficacy and home environment on the academic achievement of secondary school students on the basis of gender, type of institutions and locality.

3. To study the interactional effect of metacognition, motivation, locus of control, self-efficacy and home environment on the academic achievement of secondary school students on the basis of gender, type of institutions and locality.

4. To analyze the data based on ‘Case Studies’ and ‘Interview Schedule’.

5. To suggest educational implications on the basis of the findings of the study.
Hypotheses of the Study:

On the basis of review of literature and the divergence of results of various studies following null hypotheses have been formulated:

1. There will be no significant effect of metacognition on the academic achievement of secondary school students on the basis of gender, type of institutions and locality.

2. There will be no significant effect of motivation on the academic achievement of secondary school students on the basis of gender, type of institutions and locality.

3. There will be no significant effect of locus of control on the academic achievement of secondary school students on the basis of gender, type of institutions and locality.

4. There will be no significant effect of self-efficacy on the academic achievement of secondary school students on the basis of gender, type of institutions and locality.

5. There will be no significant effect of home environment on the academic achievement of secondary school students on the basis of gender, type of institutions and locality.

6. There will be no interactional effect of metacognition on the academic achievement of secondary school students on the basis of gender, type of institutions and locality.

7. There will be no interactional effect of motivation on the academic achievement of secondary school students on the basis of gender, type of institutions and locality.

8. There will be no interactional effect of locus of control on the academic achievement of secondary school students on the basis of gender, type of institutions and locality.
9. There will be no interactional effect of self-efficacy on the academic achievement of secondary school students on the basis of gender, type of institutions and locality.

10. There will be no interactional effect of home environment on the academic achievement of secondary school students on the basis of gender, type of institutions and locality.

**Delimitations of the Study:**

Following were the delimitations of the study:

1. The study was confined to Jammu district only.

2. The sample was selected from secondary school students of Jammu district only.

3. The sample included 1050 students only.

4. Out of 4 tehsils, the sample was drawn from two tehsils of Jammu district i.e. Jammu and R.S.Pura tehsils only.

5. The investigator has constructed Metacognition Scale.

6. The Locus of Control Scale developed by Dr. Sanjay Vohra was restandardized by the investigator.

7. As far as levels of independent variables like Metacognition, Motivation, Locus of Control, Self-efficacy and home environment were concerned, only high and low levels were studied.

8. Quartile deviation was used to study the levels, i.e. High and Low.

9. The components of Metacognition in the scale developed by the investigator, i.e. Metacognitive Awareness, Metacognitive Evaluation and Metacognitive Knowledge were studied (as given by Wilson).

10. In the present study, self-system refers to motivation, locus of control and self-efficacy.
METHODOLOGY ADOPTED:

Research Method: The present study was descriptive in nature. Descriptive studies investigate phenomena in their natural setting. Their purpose is both immediate and long range. They are more than just a collection of data; they involve measurement, classification, analysis, comparison and interpretation. ‘Mixed method approach’ was used in the present study.

In the present study following variables were delineated:-

Independent Variables: Metacognition, Motivation, Locus of control, Self-efficacy and Home environment.

Dependent Variable: Academic achievement.

Demographic Variables: Gender, Type of institutions and Locality.

Population:

A population is defined as a group of individuals with characteristics that are of interest to the researcher. For the present study, population comprised of 449 (167 government and 282 private approximately) secondary schools and with an enrolment of 20997 secondary school students out of which 11218 are boys (3094 are from government schools and 8124 are from private schools) and 9779 are girls (3474 are from government schools and 6305 are from private schools) of Jammu district affiliated to J&K Board of School Education. (Source: CEO Office, Jammu, 2012-13)

Sample:

A sample is a small proportion of the population that is selected for observation and analysis. For the present study, the investigator used ‘Cluster Random Sampling’ technique and 1050 students of class 10th were selected as a sample for the study. Out of 4 tehsils of Jammu district, 2 tehsils were selected randomly and from these 2 tehsils, 1050 students were selected from various types of schools. The investigator had taken 5% of the total population i.e. 20,997 and hence 1050 students were selected as sample.
Tools:

The investigator made use of the following tools:

1) Metacognition Scale: For measuring the metacognitive aspect, the investigator developed Metacognition Scale with respect to its three components i.e. i) Metacognitive Awareness, ii) Metacognitive Evaluation and iii) Metacognitive Knowledge. The scale is in English language and was standardized by finding the reliability and validity. The scale was standardized on the students of class tenth. Item analysis was done with the help of t-test for upper and lower 25% cases. The items with value 1.75 and above were retained and rest of the items was deleted. Croanbach’s Alpha Coefficient was used to find the reliability of the test which came out to be 0.79. Content validity of the test was found and Percentile norms were established to interpret the raw scores of the scale.

2) Achievement Motivation Scale (2011): This scale has been developed by Dr. (Mrs.) Pratibha Deo and Dr. (Mrs.) Asha Mohan. It is in English language and was standardized on 13 to 20 years boys and girls. The scale consists of 50 items having the distribution as- academic motivation, need for achievement, academic challenge, achievement anxiety, importance of grades/marks, meaningfulness of task, relevance of school/college to future goals, attitude towards teachers, interpersonal relations, individual concern, general interests, dramatics, sports, etc. Taking into consideration the results, the present scale reliability coefficients by test-retest method for the total group, as well as for the separate male and female groups, are very satisfactory and the scale can be taken as quite reliable for use. As far as the validity of the scale is concerned, in the first instance the item validity established by the high-low discrimination method was accepted as the validity of the whole measure. The coefficient of correlation between the scale and the
projective test was observed to be 0.54 which speaks for the validity of the scale also, the validity being of the concurrent nature.

3) **Levenson’s Locus of Control Scale (1992):** This scale has been prepared by Dr. Sanjay Vohra. This scale is Likert type scale with 5 responses from Strongly agree to Strongly disagree. It is in English language and has 24 items divided into three components i.e. P (Powerful others), C (Chance control) and I (Individual Control) Each component has 8 statements.

4) **Self-efficacy Scale (2012):** This scale has been developed by Dr. G.P. Mathur and Dr. R.K. Bhatnagar. It is in Hindi language. The scale consists of 22 items in eight areas – (i) self- regulatory skills, (ii) self-influence, (iii) self-confidence, (iv) social achievement, (v) self, (vi) self-evaluation, (vii) self-esteem, (viii) self-cognition. It was administered on 800 male and female students of age group of 14+. The reliability coefficient of the scale was measured by test-retest on a sample of 600 (300 male and 300 female). In male it ranges between 0.73 and 0.81 and in female 0.79 and 0.86 and is significant at 0.01 level of significance. To obtain concurrent validity co-efficient of self-efficacy scale, the scale was compared with the views of experts’ rating. Validity ranges in male 0.73 to 0.81 and in female 0.76 to 0.83.

5) **Home Environment Inventory (2012):** This scale has been developed by Dr. K.S. Mishra. It is in English language and contains 100 items related to ten dimensions of home environment – (i) control, (ii) protectiveness, (iii) punishment, (iv) conformity, (v) social isolation, (vi) reward, (vii) deprivation of privileges, (viii) nurturance, (ix) rejection and (x) permissiveness, each dimension has ten items. It is reliable and valid instrument with standardization of school going children of 13-17 years. Split-half reliabilities were worked out separately for all the ten dimensions of home environment. This inventory has been found to possess content validity as measured with the help of views expressed
by judges; criterion related validity could not be established because of the lack of appropriate external criteria.

**Statistical Techniques Used**

Statistical techniques employed for data analysis were Mean, t-test and Analysis of Variance (Three way ANOVA 2×2×2 Factorial Design). The investigator also made use of ‘Content-Analysis’ for analyzing the responses of secondary school students on ‘Case Studies’ and ‘Interview Schedule’. Percentage was used to analyze the data based on Interview Schedule.

**ANALYSIS OF THE DATA:**

- **Inferences based on Levels of Metacognition, Motivation, Locus of Control, Self-efficacy and Home Environment:**

  The levels in the present study were found on the basis of quartile deviation; Q1 indicated low level and Q3 indicated high level of all the variables involved in the study. These scores then converted into mean scores to find out which and who performed better among all. The findings of which are given as follows:

  *Findings based on mean scores of high and low level of metacognition of secondary school students on the basis of gender, type of institutions and locality.*

  1. Private school students had high level of metacognition than government school students. This finding is supported by a study conducted by Kadian (2016) which found that “the mean scores on executive intelligence, executive functioning, metacognition awareness and academic achievement of private school students was higher than that of public schools”.

  2. It has been found that secondary school students belonging to rural locality had high level of metacognition than secondary school students belonging to urban locality. This finding is supported by study
conducted by Aman and Verma (2015) in which it has been found that “the level of metacognition among secondary school students belonging to rural areas was significantly higher than urban areas”.

3. Also, girls had high level of metacognition than boys. This finding is supported by Rani and Govil (2013) which revealed that “mean score of female undergraduate students was higher than the mean score of their male counterparts on the variable of metacognition”.

Findings based on mean scores of high and low level of motivation of secondary school students on the basis of gender, type of institutions and locality.

1. Private secondary school students had high level of motivation than government secondary school students. Similar results have been found by Solanki, V. (2017) in which “private school students had higher motivation than that of government school students”.

2. Also, girls had high level of motivation than boys. This finding is supported by a study conducted by Eymur and Geben (2011) in which “female were highly motivated than their male counterparts”.

3. Secondary school students belonging to rural locality had high level of motivation secondary school students belonging to urban locality.

Findings based on mean scores of high and low level of locus of control of secondary school students on the basis of gender, type of institutions and locality.

1. Private secondary school students had high level of locus of control than government secondary school students.

2. Also, girls had high level of locus of control than boys. This finding is supported by Hasan and Khalid (2014) that “women were significantly high on internal academic locus of control than men”.

248
3. Secondary school students belonging to rural locality had high level of locus of control than secondary school students belonging to urban locality. Similar results have been found in the study conducted by Shivraj and Avaradi (2015) in which “the mean score of locus of control of rural students was higher than that of urban students”.

Findings based on mean scores of high and low level of self-efficacy of secondary school students on the basis of gender, type of institutions and locality.

1. Private secondary school students had high level of self-efficacy than government secondary school students. Similar results have been found by Bala, Kaur and Singh (2017) in which “private school students had high self-efficacy than that of government school students”.

2. Also, girls had high level of self-efficacy than boys. This finding is supported by a study conducted by Ahuja, A. (2016) in which “girls found to have statistically significant higher scores in self-efficacy, educational aspiration and academic achievement”.

3. Secondary school students belonging to rural locality had high level of self-efficacy than secondary school students belonging to urban locality.

Findings based on mean scores of high and low level of home environment of secondary school students on the basis of gender, type of institutions and locality.

1. Private secondary school students had high level of home environment than government secondary school students. This finding is supported by a study conducted by Bandhana and Sharma (2012) in which “private school students had high home environment than that of government school students”.

249
2. Also, girls had high level of home environment than boys. This finding is supported by a study conducted by Rani (2013) that “the mean score of girls found to be higher than boys on parental encouragement”.

3. Secondary school students belonging to rural locality had high level of home environment in comparison to secondary school students belonging to urban locality. Similar results have been found by Devi (2015) in which “family environment of rural students was better than their male counterparts”.

- Inferences based on effect of Metacognition on the Academic Achievement of secondary school students with gender, type of institutions and locality as demographic variables.

*Findings based on effect of Metacognition on the academic achievement of secondary school students with gender and type of institutions as demographic variables:*

1. No significant differences between the secondary school students belonging to high metacognition and low metacognition groups in terms of academic achievement were found.

2. Significant differences in the academic achievement of secondary school students belonging to government and private schools on the basis of metacognition were found. The mean value of private school students i.e. 223.2 came out to be higher than that of the government school students i.e. 206.58.

3. Significant gender differences in the academic achievement of secondary school students on the basis of metacognition were found. The mean value of girl students i.e. 226.27 came out to be higher than that of boys i.e. 203.51. Similar results have been found in the study conducted by Jagadeeswari and Chandrasaekran (2013) in which
“significant differences were found in the metacognition in terms of
gender”.

4. No significant differences in the academic achievement of secondary
school students under the joint influence of metacognition and type of
institutions were found. Similar results have been found in the study
conducted by Jaleel and Chandran (2016).

5. Significant differences in the academic achievement of secondary school
students under the joint influences of metacognition and gender were
found.

6. Significant differences in the academic achievement of secondary school
students under the joint influence of type of institutions and gender in
relation to metacognition were found. Similar results have been found in
the study conducted by Jagadeeswari and Chandrasekran (2013) that
“there were significant differences on the basis of gender and type of
school management as far as metacognition was concerned”.

7. No significant differences in the academic achievement of secondary
school students on the basis of triple interaction of metacognition, type
of institutions and gender were found.

**Findings based on effect of Metacognition on the academic achievement of
secondary school students with gender and locality as demographic variables:**

1. No significant differences between the secondary school students
belonging to high metacognition and low metacognition groups in terms
of academic achievement were found.

2. No significant differences in the academic achievement of secondary
school students belonging to urban and rural locality on the basis of
metacognition were found. Similar result has been found in the study
conducted by Jaleel and Chandran (2016) in which “no significant
results have been found in metacognition awareness of students with regard to locale”.

3. Significant gender differences in the academic achievement of secondary school students on the basis of metacognition were found. The mean value of girls i.e. 225.93 came out to be higher than that of boys i.e. 203.62.

4. No significant differences in the academic achievement of secondary school students under the joint influence of metacognition and locality were found.

5. Significant differences in the academic achievement of secondary school students under the joint influence of metacognition and gender were found.

6. No significant differences in the academic achievement of secondary school students under the joint influence of locality and gender in relation to metacognition were found.

7. No significant differences in the academic achievement of secondary school students on the basis of triple interaction of metacognition, locality and gender were found.

Inferences based on effect of Self-system on the Academic Achievement of secondary school students with gender, type of institutions, locality and tehsil as demographic variables.

Findings based on effect of Motivation on the academic achievement of secondary school students with gender and type of institutions as demographic variables:

1. Significant differences between the secondary school students belonging to high motivation and low motivation groups in terms of academic achievement were found. The mean value of students belonging to high
group of motivation i.e. 221.63 came out to be higher than that of low group of motivation i.e. 208.13. Similar results have been found in the study conducted by Gupta, Devi and Pasrija (2012) that “there was a significant difference in the academic achievement of students belonging to high and low level of achievement motivation”.

2. Type of institutions (i.e., government and private) showed significant difference in the academic achievement of secondary school students on the basis of motivation. The mean value of private school students i.e. 221.68 came out to be higher than that of government school students i.e. 208.08. Similar results have been found in the study conducted by Gupta, Devi and Pasrija (2012) that “there was a significant difference in the academic achievement of students belonging to high and low level of achievement motivation in relation to their type of schools”.

3. Gender showed significant difference in the academic achievement of secondary school students on the basis of motivation. The mean value of girls i.e. 222.72 came out to be higher than that of boys i.e. 217.04. Similar results have been found in the study conducted by Puhan and Nibedita (2017) in which they found “significant differences between males and females with respect to motivation”.

4. No significant differences in the academic achievement of secondary school students under the joint influence of motivation and type of institutions were found.

5. No significant differences in the academic achievement of secondary school students under the joint influence of motivation and gender were found.

6. No significant differences in the academic achievement of secondary school students under the joint influence of type of institutions and gender in relation to motivation were found.
7. No significant differences in the academic achievement of secondary school students on the basis of triple interaction of motivation, type of institutions and gender were found.

**Findings based on effect of Motivation on the academic achievement of secondary school students with gender and locality as demographic variables:**

1. Significant differences between the secondary school students belonging to high motivation and low motivation groups in terms of academic achievement were found. The mean value of students belonging to high group of motivation i.e. 223.37 came out to be higher than that of low group of motivation i.e. 206.58. Similar results have been found by **Gupta and Mili (2016)** that “there were significant differences in the high and low achievers group in terms of academic motivation”.

2. Locality (i.e., urban and rural) showed no significant difference in the academic achievement of secondary school students on the basis of motivation. Similar results have been found in the study conducted by **Velmurugan and Balakrishnan (2013)** that “there is no significant difference between urban and rural students on the basis of achievement motivation”.

3. Gender showed significant difference in the academic achievement of secondary school students on the basis of motivation. The mean value of girls i.e. 222.85 came to be higher than that of boys i.e. 207.10. This finding is supported by a study conducted by **Badola (2013)** in which “male and female students had significant difference in academic achievement motivation”.

4. No significant differences in the academic achievement of secondary school students under the joint influence of motivation and locality were found.
5. No significant differences in the academic achievement of secondary school students under the joint influence of motivation and gender were found. Similar results have been found by Chetri (2014) that “there was no significant difference in the achievement motivation of students with regard to gender variation”.

6. No significant differences in the academic achievement of secondary school students under the joint influence of locality and gender in relation to motivation were found. This finding is supported by a study conducted by Adsul and Kamble (2008) in which they found “no significant difference between gender and locale on the basis of achievement motivation”.

7. Significant differences in academic achievement of secondary school students on the basis of triple interaction of motivation, locality and gender were found.

Findings based on effect of Locus of Control on the academic achievement of secondary school students with gender and type of institutions as demographic variables:

1. Significant differences between the secondary school students belonging to high locus of control and low locus of control groups in terms of academic achievement were found. The mean value of students belonging to high group of locus of control i.e. 224.62 than that of low group of locus of control i.e. 206.62.

2. Significant differences in the academic achievement of secondary school students belonging to government and private schools on the basis of locus of control were found. The mean value of students of private schools i.e. 227.96 came out to be higher than that of government school students i.e. 203.28.
3. Gender showed significant difference in the academic achievement of secondary school students on the basis of locus of control. The mean value of girls i.e. 225.50 came out to be higher than that of boys i.e. 205.74. This finding is supported by a study conducted by Sherman, Higgs and Williams (1997) that “gender differences existed in terms of locus of control”.

4. No significant differences in the academic achievement of secondary school students under the joint influence of locus of control and type of institutions were found.

5. No significant differences in the academic achievement of secondary school students under the joint influence of locus of control and gender were found. This finding is supported by a study conducted by Shivaraj and Avaradi (2015) that “there were no significant differences in terms of locus of control among boys and girls”.

6. No significant differences in the academic achievement of secondary school students under the joint influence of type of institutions and gender in relation to locus of control were found.

7. No significant difference in the academic achievement of secondary school students on the basis of triple interaction of locus of control, type of institutions and gender were found.

Findings based on effect of Locus of Control on the academic achievement of secondary school students with gender and locality as demographic variables:

1. Significant differences between the secondary school students belonging to high locus of control and low locus of control groups in terms of academic achievement were found. The mean value of students belonging to high group of locus of control i.e. 224.30 came out to be higher than that of low group of locus of control i.e. 206.94.
2. No significant differences in the academic achievement of secondary school students belonging to urban and rural locality on the basis of locus of control were found.

3. Gender showed significant difference in the academic achievement of secondary school students on the basis of locus of control were found. The mean value of girls i.e. 225.39 came out to be higher than that of boys i.e. 205.85.

4. No significant differences in the academic achievement of secondary school students under the joint influence of locus of control and locality were found. Similar results have been found in the study by *Shivaraj and Avaradi (2015)* that “there were no significant differences in the rural and urban students in terms of anxiety and locus of control”.

5. No significant differences in the academic achievement of secondary school students under the joint influence of locus of control and gender were found. Similar results have been found in the study conducted by *Shivaraj and Avaradi (2015)* that “there were no significant differences in the male and female students in terms of locus of control”.

6. No significant differences in the academic achievement of secondary school students under the joint influence of locality and gender in relation to locus of control were found.

7. No significant difference in the academic achievement of secondary school students on the basis of triple interaction of locus of control, locality and gender were found.

*Findings based on effect of Self-efficacy on the academic achievement of secondary school students with gender and type of institutions as demographic variables:*

1. No significant differences between the secondary school students belonging to high self-efficacy and low self-efficacy groups in terms of
academic achievement were found. Similar results have been found in the study conducted by Bhagat and Baliya (2016) that “there were no significant differences in the self-efficacy of high and low achiever secondary school students”.

2. Type of institutions (i.e., government and private) showed significant difference in the academic achievement of secondary school students on the basis of self-efficacy. The mean value of students belonging to private schools i.e. 224.26 came out to be higher than that of government schools i.e. 208.06. Gender (i.e., boys and girls) showed significant difference in the academic achievement of students on the basis of self-efficacy. The mean value of girls i.e. 226.47 came out to be higher than that of boys i.e. 205.85. Similar results have been found by Shkullaku (2013) that “there existed significant differences between boys and girls in terms of self-efficacy”.

3. Gender (i.e., boys and girls) showed significant difference in the academic achievement of secondary school students on the basis of self-efficacy. The mean value of girls i.e. 226.47 came out to be higher than that of boys i.e. 205.85. Similar results have been found by Bhagat (2016) in which “significant gender differences in terms of self-efficacy were found”.

4. No significant differences in the academic achievement of secondary school students under the joint influence of self-efficacy and type of institutions were found. Similar results have been found in the study conducted by Meera and Jumana (2016) in which “no significant differences were found between government and aided school students in terms of academic performance in English and self-efficacy”.

5. No significant differences in the academic achievement of secondary school students under the joint influence of self-efficacy and gender
were found. Similar results have been found by Kaur (2012) that “there existed no significant difference between gender and self-efficacy”.

6. No. significant differences in the academic achievement of secondary school students under the joint influence of type of institutions and gender in relation to self-efficacy were found.

7. No significant differences in the academic achievement of secondary school students on the basis of triple interaction of self-efficacy, type of institutions and gender were found.

**Findings based on effect of Self-efficacy on the academic achievement of secondary school students with gender and locality as demographic variables:**

1. No significant differences between the secondary school students belonging to high self-efficacy and low self-efficacy groups in terms of academic achievement were found. Similar results have been found by Bali and Singh (2017).

2. Locality (i.e., urban and rural) showed no significant difference in the academic achievement of secondary school students on the basis of self-efficacy.

3. Gender (i.e., boys and girls) showed significant difference in the academic achievement of secondary school students on the basis of self-efficacy. The mean value of girls i.e. 224.04 came out to be higher than that of boys i.e. 207.96. Similar results have been found by Kumar and Lal (2006) in which “significant gender differences in terms of self-efficacy were found”.

4. No significant differences in the academic achievement of secondary school students under the joint influence of self-efficacy and locality were found.
5. No significant differences in the academic achievement of secondary school students under the joint influence of self-efficacy and gender were found. Similar results have been found by Mishra (2013) that “there existed no significant difference between gender and self-efficacy”.

6. No significant differences in the academic achievement of secondary school students under the joint influence of locality and gender in relation to self-efficacy were found.

7. No significant differences in the academic achievement of secondary school students on the basis of triple interaction of self-efficacy, locality and gender were found.

Inferences based on effect of Home Environment on the Academic Achievement of secondary school students with gender, type of institutions and locality as demographic variables.

Findings based on effect of Home Environment on the academic achievement of secondary school students with gender and type of institutions as demographic variables:

1. No significant differences between the secondary school students belonging to high home environment and low home environment groups in terms of academic achievement were found.

2. Type of institutions (i.e., government and private) showed significant difference in the academic achievement of secondary school students on the basis of home environment. The mean value of students of private schools i.e. 223.31 came out to be higher than that of government schools i.e. 206.50.

3. Gender (i.e., boys and girls) showed significant difference in the academic achievement of secondary school students on the basis of home environment. The mean value of girls i.e. 223.51 came out to be
higher than that of boys i.e. 206.30. This finding is supported by a study conducted by Dhall (2014) that “there were significant difference between boys and girls of secondary school with regard to home environment”.

4. No significant differences in the academic achievement of secondary school students under the joint influence of home environment and type of institutions were found. Similar results have been found by Rani (2013) that “there was no significant difference in parental encouragement of students studying in public and private schools”.

5. No significant differences in the academic achievement of secondary school students under the joint influence of home environment and gender were found. This finding is supported by a study conducted by Rani (2013) that “there was no significant difference in parental encouragement in terms of gender”.

6. There are significant differences in the academic achievement of secondary school students under the joint influence of type of institutions and gender in relation to home environment were found.

7. No significant differences in the academic achievement of secondary school students on the basis of triple interaction of home environment, type of institutions and gender were found.

Findings based on effect of Home Environment on the academic achievement of secondary school students with gender and locality as demographic variables:

1. No significant differences between the secondary school students belonging to high home environment and low home environment groups in terms of academic achievement were found.
2. Locality (urban-rural) showed no significant difference in the academic achievement of secondary school students on the basis of home environment.

3. Gender (i.e., boys and girls) showed significant difference in the academic achievement of secondary school students on the basis of home environment. The mean value of girls i.e. 223.52 came out to be higher than that of boys i.e. 206.37.

4. No significant differences in the academic achievement of secondary school students under the joint influence of home environment and locality were found.

5. No significant differences in the academic achievement of secondary school students under the joint influence of home environment and gender were found.

6. No significant differences in the academic achievement of secondary school students under the joint influence of locality and gender in relation to home environment were found.

7. No significant differences in the academic achievement of secondary school students on the basis of triple interaction of home environment, locality and gender were found.

**Findings based on Interview Schedule:**

1. Majority of the students, i.e. 55% responded that to achieve higher status in their lives motivate them to do better in examinations.

2. Majority of the students i.e. 100% responded that family environment is an important factor which can help them to do better in studies.

3. Majority of the students i.e. 45% responded that their parents control their lives as their parents decide their sleeping time, eating time, leisure
time and even whom to make friendship with, about their future and likewise.

4. Majority of the students i.e. 70% responded that they were very efficient and confident in doing various tasks. If assigned any task they can do it with ease and do not find any difficulties rather get excited and enthusiastic to do it well and do not care about the results.

5. Majority of the students i.e. 70% rated themselves ‘8’ as they think they were careless about their studies and if concentrate on their studies can perform well.

6. Majority of the students i.e. 60% think that in problematic situations they spend time in self-talk.

7. Majority of the student i.e. 60% believed that self-talk provided them with the solutions of their problems only and it has nothing to do with the thinking process.

8. Majority of the students i.e. 80% responded that they analyse their performance day to day, as whatever is taught to them they analyse how much of the material they understood after coming back home from school.

**Findings based on Case Studies:**

1. Higher thinking ability (metacognition) and believing in oneself and one’s abilities to shape one's life (locus of control) were helpful in maintaining good academic records and also make one intellectually sound.

2. Motivation and Self-efficacy can be helpful in enhancing academic results (except some problems like low social relations).

3. Locus of control and metacognition can help in enhancing better academic results.
4. Lack of family support and motivation from parents make children mentally unhealthy and academically poor.

5. Home Environment is very important factor for the success of an individual. It was also found to be helpful in maintaining good academic records.

CONCLUSION AND DISCUSSION OF RESULTS:

Going by the results of the present study, it has been found that:

The level of metacognition, motivation, self-efficacy, locus of control and home environment was better in girls. This may be due to the reason that girls were more aware and serious towards their career. In the past era, girls were remained behind the scenes in educational terms. A transition in the role and importance of girls’ education has now been evolved with the new policies and commissions being formulated from time to time. Boys on the other hand, found to have low metacognition, motivation, self-efficacy, locus of control and home environment as compared to girls. This may be due to the reason that they were found to be involved in other activities like being active on social networking sites, spending more and more time with peer groups by discussing mundane events (even silly ones), they were over confident, pay very less attention on studies, generally bully girls in the classroom, interested to befriend with girls, like to maintain good status in the group or classroom, and likewise. Girls were found to be more sensitive, responsible, focussed and dedicated towards whatever they do and gave much importance to their academics. Boys were found to be more relaxed, careless and had for granted kind of attitude.

It has also been found that the level of metacognition, motivation, self-efficacy, locus of control and home environment was better among rural students. This is because of the reason that rural students know what they are doing, how they are doing, they have planned everything (like what they will do in their lives, how they will do it, what courses they will opt, what job opportunities they have, and likewise), they know what sacrifices their parents
have done to make them go to schools and also they think how they can help the residents and children of their areas to get settled and adjusted in their lives by making them empowered. The limitations of resources in their schools, home and areas make them realize the importance of studies. On the other hand, urban students were found to enjoy all the luxuries (like smart phones, tablets), enhancing their status symbols by getting all the latest gadgets, vehicles, being active on social networking sites, etc. They like living virtual lives rather than being in reality. Academics come secondary to their lives (not the case of all urban students). The responsibilities of parents become huge as they need to keep a check on their activities as well as of their wards. It is good to befriend with your children but befriending them on the basis of materialistic things and not on the basis of quality time is a big NO.

Private school students were found to possess high level of metacognition, motivation, self-efficacy, locus of control and home environment as compared to government school students. Availability of all the facilities including language laboratories, interactive classroom, blended classrooms, etc. has a great impact on their academics. The teachers of private schools have been observed to be more determined, hardworking and focussed than government teachers. This can be due the pressure or competitive spirit among them. Government has been monitoring and supervising all the activities of the schools but still government school teachers have been observed to be little relaxed and the atmosphere of study was not healthy. However changes are in process with the initiatives of policy makers, local governance and school authorities. The students however seemed to have less interest in studies.

EDUCATIONAL IMPLICATIONS:

The results of the present study revealed that girls were better in metacognition, locus of control, self-efficacy, motivation and home environment whereas boys were somewhat behind girls as far as these variables are concerned. It has also been found that the students with high metacognition, self-efficacy, locus of control, motivation and home environment have high
academic achievement and vice-versa. It is the duty of teachers to concentrate on boys and provide them with Schema Training, awareness about metamemory or memory systems, encouraging them to organize school activities, taking part in various projects, involving parents in school activities along with their children, regular parent-teacher meets should be organized, various skill development activities should be conducted, behaviour therapies to boost self-confidence among students should be promoted, teacher should plan their lessons so as to motivate them to learn more and there should be no boredom in the class, etc.

The findings of the present study also revealed that rural students were better than urban students in all the above said variables. The investigator found that the students of rural areas were more focussed than the urban students. They know exactly what they want to do in their lives, they were aware of their strengths and weaknesses and also they know how to make their lives better by getting into the profession of their choices and preferences. On the other hand, students of urban areas were provided with all the facilities like smart phones, tabs, cars, laptops and all the luxuries of life. The most important thing they do is to be on social networking sites and maintaining their virtual images. This made them spend all the time on internet and they hardly spend their time on studies which further proves detrimental to their academic success. This result is an eye opener and hence becomes the responsibility of parents and teachers to keep a check on the activities of the students and besides other activities students must spend their useful time on studies. Teachers and parents should become role models for the students and should develop an attitude of aiming high and being focussed in life.

Students belonging to private schools scored better in all the variables leading to good academic grades whereas; it is not good in government schools. This shows that our system needs improvement and instead of framing new policies every now and then we must first look into ground level realities and find out what actually is happening and where we need to improve. Our system
is taking everything for granted. Those who got government jobs think that their
dream has been fulfilled and that is it. Instead of performing their roles
efficiently, they just concentrate on earning money and thereby spoiling the
future of the students. Every new day we find news of careless attitude of
government school teachers towards their profession. It is high time that we
deal with this firmly and appoint those professionals who have the aptitude of
teaching and are able to cater to the needs of the students. We do not need
misfits for this job all we need is sincere and dedicated teachers who can
execute the role of an effective teacher.

Teachers should be trained enough to enhance and develop
metacognitive skills among students. Proper “Metacognition Modules” should
be developed by the school administrators, policy makers, NCERT, SCERT,
CBSE, DIET, SIE, CIE, Colleges of Education, Directorate of School Education
Departments, various School Boards of Education, etc. Teacher should
concentrate on predicting outcomes, evaluating work, questioning, self-
assessing, self-questioning and promoting the same among students.

Action research should be conducted from time to time so as to improve
learning among students and improving their academic grades. It will also help
the teachers to know their strengths and weaknesses.

Remedial teaching should be given due importance so that all the doubts
and confusions of the students should be clear and learning moves in a smoother
manner.

Activities like ‘Ice Breakers’, ‘Brain Storming’ should be organized to
inculcate habits of cognition, understanding, comprehension, problem-solving
abilities, etc. in the curriculum of secondary school students.

Counselling cells should be established in schools so that the students
find answer to their queries and instead taking any bold step in life (like
harming themselves, committing suicide, etc.) find someone to talk and take
advice for their adjustment in life. This will also help in making their lives stress-free and enhancing their mental health and hygiene.

Individual as well as group assignments followed by presentations of the content should be given to the students by the teachers in order to promote metacognition, original thinking, self-efficacy, locus of control and motivation.

Concept mapping and mind mapping is a new technique from which learning can be made an enjoyable process and can be retained for a longer period. This must be done by every teacher to make students self-learner and independent learner.

Students should be taught through ‘Constructivist Approach’ so that they can develop critical and reflective thinking.

Parents can also play a good role in enhancing metacognition, self-efficacy, motivation, locus of control and home environment among children. Only a good parenting or we can say good child rearing practices should be helpful in making students responsible learners, aware thinkers and better citizens.

Policy makers, administrators and curriculum planners can also play their roles in an efficient manner by framing the curriculum taking into consideration the needs of the students, need of present society and world at large. Outdated curriculum should be removed and new curriculum should be framed which makes students divergent and reflective thinkers.

**SUGGESTIONS FOR FURTHER RESEARCH:**

Present study has following suggestions for further research:

1. The present study was conducted in Jammu district only. Similar study can be conducted on other districts of Jammu and Kashmir State.

2. In the present study, out of four tehsils only two tehsils were selected. Similar study can be done on other two districts also.
3. Only tenth grade students were selected for the present study. Class ninth can also be included in the study.

4. Students of secondary schools were studied in the present study. Similar study can be done on elementary, higher secondary and at higher education stage also.

5. Students studying through JKBOSE medium have been considered for the present study. A comparative analysis of JKBOSE and CBSE students could also be studied.

6. In the present study, academic achievement as dependent variable was studied. Other related variables like socio-economic status, intelligence, birth order, parents’ qualification, etc. could also be studied.