Chapter II

Review of Related Literature
CHAPTER – 2
REVIEW OF RELATED LITERATURE

The literature in any field forms the foundation upon which all future work is built. If we fail to build the foundation of knowledge provided by the review of literature, our work is likely to be shallow and native and will often be duplicate work that has already been done better by someone else.

- W.R. Brog.

Review of related literature is an important and crucial aspect of a research report which means to locate, to read and to evaluate the past as well as current literature of research concerned with the present investigation. The study of related literature helps the investigator to acquire a comprehensive information about what has been done in a particular area. It also serves as a source of guideline for the study in hand.

It places the study in a historical and associational perspective and helps to avoid unintentional and unnecessary replication. It provides an opportunity of gaining insight into the methods, measures, subjects and approaches employed by other researches.

The phrase “Review of Literature” consists of two words viz. review and literature. review’ means to organize the knowledge of the specific area of research and the term ‘literature’ is used with reference to the language and the subject content underlying the study.

In the words of Dr. Lokesh Kaul: “The review of related literature gives the researcher an understanding of the research methodology which refers to the way the study is conducted. It helps the researcher

Survey of related literature and research is an essential aspect of a research project. An exhaustive survey of what has already been done on the problem is an indispensable step in its solution.

Mouly (1961) asserts that no experienced researcher would think of undertaking a study without acquainting himself with the contributions of previous investigators. Sukhia (1974) and others assert that the search for reference material
is a time-consuming but very fruitful phase of a research programme. This search provides further orientation to the problem and, at the same time, eliminates the possibility of avoidable duplication of effort.

In every research, it is essential to acquaint oneself with what has already been thought, expressed and done about the problem under investigation. This is possible only by reviewing and surveying books, journals, newspapers, records, documents, indexes, abstracts, dissertations and other sources of information directly or indirectly connected with the problem.

**Studies Abroad**

**Hamtwell (1980)** studied the effect of an assertiveness training group on level of assertiveness and anxiety in females. The training was not found to be effective in increase of assertiveness and lessening of anxiety.

**Kumar, K. (1980)** studied some personality correlates of academic adjustment. He reported that academic adjustments of the female students were significantly much better than that of the male. The normal/stable students had better adjustment than the neurotic students. The stable introvert students had the highest academic adjustment, while the unstable extravert students had the low adjustment.

**Shmukler (1982-83)** conducted a follow up study of 73 third graders from an original sample of 114 mother-child pairs who were observed when the subjects were preschoolers. It was concluded that an optimal balance between involvement, caring and warmth on the part of the pre-scholar's mother and a willingness to let the child explore at his/her own pace leads to future creative and imaginative expression.

**Orieux, James Amox (1989)** Univ. of Alberta (Canada) studied the correlation of creative ability and performance in high school students. The study revealed that both creative ability and performance were significantly related to intellectual ability and academic achievement at moderate to low levels. The correlational analysis between IQ and creativity and achievement and creativity resulted in overall low and non-significant correlations. Multivariables analysis of
variance conducted to evaluate gender effect for all measures revealed that females significantly differ from males: females obtaining higher mean scores on two achievement measures and two creativity measures.

**Susen Keller Mothers (1990)** of state University of New York, College at Buffalo, center for studies in creativity, studied the impact of creative problem solving training on participants personal and professional level. A replication and extension. Results indicate that students trained in creative problem solving techniques are able to apply many of the techniques learned in the course in their personal and professional levels. Furthermore, those techniques were found to be useful to the students up to a year after the course. Students also reported implementing various outcomes from challenges worked on in the course.

**DeNacerio Marlene Baldizon (1998)** studied the language proficiency and stress: Impact on measured intelligence and anxiety for Latino children. It was hypothesized that the testing environment will influence measures of anxiety for bilingual children: an empowering testing environment will lead to lower score of anxiety than those obtained in an assimilative environment. Hypothesis was not supported by results.

**Robinson, Bryan E.; Kelley, Lisa (1998)** in their study, “Adult Children of Workaholics: Self-Concept, Anxiety, Depression, and Locus of Control.” Adult children of workaholics were compared with adult children of non-workaholics on self-concept, anxiety, depression, and external locus of control. Results indicate greater depression and external locus of control among the offspring of workaholics. Children of workaholic fathers also experienced higher anxiety. Self-concept was not related to parental workaholism.

**Philip Yucht (2001)** of Seton Hall University examined Personality differences among adolescents in an impatient substance abuse treatment program. A pattern of personality factors among the population as a whole was identified. Harder drug abuser exhibit similar characteristics as depressed adolescents, having MAPI profiles suggestive of greater problems with self confidence, self image, self esteem and identity formation. Differences based on gender were identified
suggestive of higher rates of comorbidity with depression among females. Abusers may benefit from a different and more varied treatment approach that will address both addiction and comorbid conditions.

**Anthoni G. Billoni (2002)** of State University of New York, Buffalo State College, Department of Creative studies, conducted a study on the Art gallery Excursion as a Bridge to idea generation and a Heightened Aesthetic Experience. Findings showed that the Art gallery excursion was an easy to understand experience. All who participated were able to generate their own challenge. Nearly all who participated generated useful ideas to their challenge. The data from this study also showed that most participants had a positive change in their orientation to art.

**Monica, M. Browne (2002)** of Saton Hall University studied the relationship between organizational climate and school performance in New Jersey Urban Elementary Schools. She found that the high performing schools involved in this study have heal their climates than schools with lower average scores. The high performing schools outscored their low performing counterparts in every category except resource influence. Also, it was found that the levels of institutional integrity and academic emphasis were positively and significantly associated with scientific areas of school performance.

**Berrueco Ruiz Different Gallo Laura (2004)** of Pais Vasco University conducted a study aimed to design, implement and evaluate a program of cooperative and creative game, with the aim of assessing its impact of different variables for the development of children between 5 to 6 years. It was a design pretest/intervention/post test, with a sample size of 53 subjects. The 40 games that make up the program stimulates creativity. The statistical analysis performed with the SPSS 11.0 revealed that the agenda of psychoeducational intervention stimulated significantly in the experimental subjects; (a) verbal intelligence and overall (b) the ability resolution prosocial cognition problems (c ) verbal fluency (d) coordination sensomotoriz and regulations (e) creativity (behaviours and personality traits as creative teachers, verbal creativity, grafic and perceptive). In addition, it was found that programme was especially beneficial to those subjects before the intervention
and the low levels of intellectual developments, psychomotor, social and creative thinking. Finally the program did not have a differential impact in terms of gender. The results show evidence of play as an essential element to promote the integral development of children and also validate the program cooperative and creative play for children 3AS Early childhood education. These results support the idea of introducing the game, prosocial behaviour and creativity as an integral element of the curriculum of Early Childhood Education.

Cachinerio Aviles Alicia (2005) of Malaya University makes a historical overview of the theory of creative thinking. In the section of thumb, reports a research training of the subjects involved: “Research into action” The training focused on creative thinking in different dimensions of it. The design methodology of the study was pretest/ intervention /post. The results confirm the improvement of the participants in many dimensions of creative thinking.

Chamberlin, Scott. A; Moon, Sidney M. (2005) in their study, “Model Eliciting Activities as a tool to Develop and Identify Creativity Gifted Mathematicians: this article addresses the use of Model-Eliciting Activities (MEAs) as a (curricular) tool to develop mathematical creativity and identify students who are creatively gifted in mathematics. The thesis of this article is that by using MEAs, gifted educators can: (a) provide students with opportunities to develop creative and applied mathematical thinking and (b) analyse student’s mathematical thinking when engaged in creative mathematical tasks, aiding in the identification of those student who are especially talented in domain-specific, mathematical creativity. The authors conclude that MEAs have potential for both developing and identifying creatively gifted mathematicians in the middle grades.

Cramond, Bonnie; Mathews Morgan, Juanita; Bandalos, Deborah; Zuo, Li (2005) in their study, “a Report on the 40-years Follow-up of the Torrance Tests of creative Thinking: alive and were in New Millennium”. This article updates information about the Torrance Tests of Creative thinking (TTCT) by reporting on predictive validity data from the most recent data collection point in Torrance’s longitudinal studies. First, we outline the background of the tests and changes in scoring over the years. Then, we detail the results of the analyses of the 40-year
follow-up on the TTCT resulting in a structural equation model, which demonstrates the validity of the TTCT for predicting creative achievement 40 years after its administration. Finally, a rationale for the relevance of the test was provided in schools today.

**Karkockiene, Davida (2005)** in his study, “creativity: can it be a trained? A scientific Educology of creativity” over the course of half of the last century, psychologists have had a particular focus on creativity abilities training. Developing educational programs that help to enhance student’s creativity is among the most important goals of our educational system. The present study was undertaken to explore: (1) The University student’s creativity ability and (2) the possibility of developing an effective program for enhancing this ability. The research deals with problems of how to deliberately develop and systematically stimulate student’s ability to thinks creatively as well as to evaluate the dynamics of this ability on their own. The study reported in this article is based on humanistic and creative psychology theories.

**Nicole Friedman (2005)** explored the relationships among material achievement motive and anxiety levels. Data support the relationship between maternal MTQ and STAI-CZ. ELA scores were positively correlated with MTQ scores and no correlations were found among STAI-1, C2, RCMAS and ELA scores. A post hoc analysis among STAI-C2 and subscale scores of the RCMAS suggests that a closer examination of relationships amongst the variables of maternal anxiety, child anxiety and ELA performance is warranted.

**McGregor, Debra (2006)** in his study, “Developing Thinking: Developing Learning” recognized that thinking skills, such as problem solving, analysis, synthesis, creativity and evaluation can be nurtured and developed and education professionals can play a significant role in shaping the way that children learn and think. As a result, schools are being encouraged to make greater use of thinking skills in lessons and the journal emphasis on cognition have developed considerably. This book offers a comprehensive introduction to thinking skills in education and provides details guidance on how teaching can support cognitive development in their classrooms. “Developing Thinking: Developing learning” discusses how
thinking programmes, learning activities and teacher's pedagogy in the classroom can fundamentally affect the nature of pupils thinking and considers the effect of the learning environment created by peers and teachers. It compared the nature, design and outcomes of estimated thinking programmes used in schools and also offers practical advice for teachers wishing to develop different kinds of thinking capabilities. Chapters in this book include (1) What do you mean by "Thinking"? (2) What kind of thinking should we encourage children to do? (3) thinking, Thinking & Skills and learning; (4) The nature of subject specific thinking programmes; (5) The nature of General thinking Skills programmes; (6) The Nature of Infusing Thinking; (7) Evidence of the Effectiveness of thinking Programmes; (8) Development of creative thinking; (9) Development of critical thinking; (10) Development of Metacognition; (11) Development of problem solving capability; (12) Synthesising the General from the particular; (13) Professional Development to support Thinking classrooms; and (14) School Development to support Thinking Communities.

Patton, Margaret Curette; Kritsonis, William Allan (2007) conducted a study on "Factors Influencing Technology Integration in Teaching: A Taiwanese Perspective" Although the use of computer technology in classrooms is an innovative approach to teaching, teachers with creativity might not use technology as intensively as they use other creative strategies in the classroom. Eight teachers who won an award for creative teaching were interviewed in order to identify the factors affecting their use of technology in creative teaching. Teachers' perceptions about technology use were studied. Two major issues were explored. First, we studied how teachers integrated technology into creative teaching; we then identified the factors that influenced teachers' use of technology in teaching. The identified factors were classified into four categories: environmental, personal, social and curricular issues.

Majeed Mustafa Ali Reda Ali (2007) conducted a case study of Kuwait Science Club and studied the relationship between creativity and anxiety. Researcher found that Kuwaiti Government has allotted sufficient funding for
education, several national and international conferences are held annually in the State of Kuwait for the promotion of education and creativity. The state of Kuwait possesses the basis of creativity and its relevant components such as creative minds, experiences, human one/material resources and future strategies yet the researcher observed lack of decision makers that are able to make right decisions, the actual application of the recommendations of creativity researches, the application of educational plans and strategies in the Kuwaiti educational system.

Agenda Nasca Toto (2007) of Seton Hall University studied the emotional environment of families and how they influence the developments of anxiety in individuals. Results revealed a significant relationship between overall levels of expressiveness, conflict, negative dominant style of expressiveness and anxiety. Families of origin thus characterized by lower levels of expressiveness styles and conflict were related to heightened level of anxiety in individuals.

Muhammad Tanveer (2007) of University of Glasgow investigated the factors that cause language anxiety for ESL/EFL learners in learning speaking skills and influence it casts on communication in target language. The findings suggested that language anxiety can originate from learner's own sense of 'self' their self-related cognitions, language learning difficulties, differences in social status of the speakers and interlocutors and from the fear of losing self identity.

Yi Xinfa (2008) of Free Universal, Berlin studied creativity, efficacy and their organizational, cultural influences. The results of chapter-3 showed that there were significant differences on cultural efficacy among Caucasian-Germans, Asian-Germans, Chinese studying abroad and domestic Chinese. However there were no cultural, bicultural and bilingual differences in general self-efficacy and creativity self efficacy between German and Chinese participants. The results of Chapter-5 demonstrated that there were significant teaching duration, age differences and significant two way school teaching subject interaction in creative organizational climate and significant gender difference in general self-efficacy. Path analysis indicated that the significant path coefficients were from creativity organizational climate to cultural efficacy of own culture to creativity self efficacy. There was only indirect pathway from creative organizational climate to creativity self efficacy.
Science Daily (2008) Finnish Science have identified genes that may predispose anxiety disorders. Research conducted under the supervision of Academic Research Fellow Giris Hovatta have focused on genes that influence human behaviour and some of the studied genes show a statistical association with specific anxiety disorder.

Science Daily, Hall and his colleagues (2009) conducted a five year, longitudinal study of secondary school adolescents. Every year the depressive and Anxiety disorders symptoms of adolescents were measured. Hall and his colleagues conducted that while adolescents anxiety and depression were strongly related to one another, that adolescent depression and anxiety disorder symptoms are in fact best classified two distinct disorders. DSM-V-Those conclusions are of importance for the diagnostic and statistical manual of mental disorders

Luis Carolos Delgado Poster (2009) carried out a research at University of Granda and Found as a consequence of mental training both the girls with chronic concern and teachers improved their subjective rates of anxiety, depression, concern, complaints about health and emotional regulation together with certain can psycho-physiological such as Cardiac, muscular and respiratory variables. Delgado poster says that in the light of the results obtained, they have proved “effectiveness of training mindfulness abilities and human values in the teaching sector as an emotional self-regulating tool, stress prevention for students and teachers as well a to facilitate the teaching learning process.

Juth, Pernilla (2010) at Karolinska Institute Stockholm, conducted a study “Finding an emotional face in a crowed and the role of threat-biased attention in social anxiety.” The researcher recruited high and low socially anxious individuals for two different tasks. The first one was designed to reveal a potential association between social anxiety and attentional shift to socially threatening stimulus. The socially anxious participants performed worse than the low anxious control group in trials. Where a socially threatening task-irrelevant stimulus was presented. A prolonged threat dwelling explanation for the socially anxious participant’s slowed RT performance was undermined by the recorded eye-movement patterns, which suggested that they rather had problems with controlling attention. Thus, while not
being pre-occupied with the threatening stimulus in itself, their unstable attentional focus seemed to reflect the draining of attentional resources available for the cognitive task, suggesting that endogenous attentional control efforts were compromised.

STUDIES IN INDIA

Chauhan N.S. (1978) explored the nature of creativity, determine adolescents growth of five components of creativity and to determine personality correlates of creativity components. The findings were: (1) At the age 17 years, fulsome expression was positively correlated with creativity components. In late adolescence, it promoted creative production (CP), originality, masculine and feminine creative production (CP). At the age level of 21 years, affectothymia continued to promote C.P, masculine C.P, originality and masculine originality. Effectivity of affectothymia as a correlate of creativity components, with a depression at 19 years continued to grow (2) Intelligence demoted fluency and flexibility and rise of C.P and flexibility on the low level proved them to be negatively correlated with intelligence but the decline of feminine, flexibility on the low level of intelligence but it as a positive correlate of intelligence. Intelligence was a correlate of creativity but a negative one of fluency, flexibility C.P and masculine flexibility. Creativity components were sex sensitive, Famine fluency and masculine flexibility increased upto 19 years but masculine fluency and feminine flexibility declined after 19 years.

Arora G.L (1978) conducted a study on relationship of sex with creativity, general anxiety, vocational anxiety and teaching success. The findings of the study were: (1) males and females did not differ significantly in mean performance on Torrance Test of Creative Thinking.(2) sex did not contribute significantly to the variance of creativity scores.

Acharyulu, S.T.V.G. (1978) studied the relationship among creative thinking, intelligence and school achievement. The major findings of the study were (i) There was no sex difference in intelligence, figural creativity and achievement in
Telegu, General Science and Social Studies. Significant sex differences in verbal creativity and achievement in English and Mathematics were found to be in favour of girls. The performance of either sex was better on verbal than on the figural TTCT. (ii) The hypotheses that interaction between intelligence and creativity affected school achievements was not supported in 34 out of 35 sets of 7×3 factorial analysis of variance. There was a significant disordinal interaction between intelligence and figural elaboration, although no definite trend in their effect on the English language was noticed. (iii) The main effect of both intelligence and creativity was significant in 33 out of 35 analysis of variance involving intelligence, verbal and figural creativity measures and school achievement. The form of relationship was such that intelligence and creativity tended to be additive and more or less linear in their effect on school achievement. (iv) Getzels-Jackson effect was confirmed by non significant differences in achievement between the high intelligence and high verbal creativity groups despite significant differences in their intelligence and verbal creativity. But in the case of high intelligence and high figural creativity groups the evidence for the Getzels-Jackson Effect was rather weak. The achievement of the high intelligence and high verbal creativity group in different schools subjects was significantly higher than that of the high intelligence and high verbal creativity groups.

**D'Lima, C.D. (1979)** undertook the differential study of high and low achievement syndromes of a select group of creatively gifted and intellectually gifted children in the city of Bombay. The major findings of the study were (i) The double talented group had a higher percentage of high achievers and the simple-talented group had a higher percentage of low achievers. (ii) There was significant difference between differences types of gifted pupils. (iii) Different types of gifted groups formed on the basis of intelligence and creativity seemed to be highly similar in academic achievement, social interaction, self concept, academic motivation and independence stability. (iv) The different types of gifted groups formed on the basis of intelligence and creativity differed in general intelligence, general talent and self reliance-dominance. (v) There was significant difference between the low and high achievers amongst the different types of gifted pupils.
Gulati S (1979) found that with respect to different components of creativity, namely fluency, flexibility and originality, introverts performed better than the extroverts. High creatives possessed more sense of humour, less faminity and less conformity than the low creatives.

Gupta A. (1979) Research studies also reported that creatives were more happy go-lucky, impulsive, lively, gay, enthusiastic, trusting, adaptable, free from jealousy, relaxed, easy to set alongwith, tranquil, torpid and unfrustrated. They were also outgoing, warm hearted and participatory, emotionally mature, stable and realistic about life, enthusiastic, persevering and conscious about their self. They were self-sufficient, resourceful, preferring their own decisions, self controlled, self disciplined and had high self concept.

Sharma, S.C. (1979) conducted the study of correlates of creative functioning. The findings were: i) males had an edge over female on verbal originality and composite verbal creativity, and ii) no significant difference was found in case of composite figural creativity.

Vijaylakshmi, J. (1980) studied academic and socio-economic status as predictors of creative talent. The findings of the study were (i) There was a significant difference between the high creative and low creative in academic achievement. (ii) There was a significant difference between the high creative and the low creative in SES. (iii) The average academic achievement of high creative was more than the average academic achievement of the low creative. (iv) SES had a facilitation effect on the creative ability of the pupil.

Lidho and Zorgar, A.H. (1980) reported negative and insignificant correlation between neuroticism and creativity. Further it was found that between high neurotic and high creative groups, the correlation is negative and not significant but the correlation between low neurotic and low creatives is positive and significant.

Amarnath (1980) compared organizational climate of Government and Privately managed higher secondary schools in Jallandar District by using OCDQ by Halpin and Croft. He found no significant difference in the organizational climate
of Government and Privately managed schools. Principals of both types of schools did not differ in their behaviour as leaders. Teachers too did not differ their behaviour as a group except in the variables of disengagement, espirit, aloofness and thrust. There was no difference in the dominance of principal’s behaviour and teacher behaviour accounting for variations in the organizational climates of the schools.

**Joshi, S.P. (1981)** studied the verbal creativity in Marathi language in relation to achievement among Marathis and Environmental factors of the students as well as teaching in high schools. The main findings of the investigations were: (i) The results of urban areas deviated from those of rural areas in some variables. (ii) In urban areas, high achievers were also high creatives. (iii) For rural areas, there was a low relationship between the achievement scores and the creativity scores. (iv) The factors supporting creativity were, power of artistic or literary expression, ability to structure and acquired expressive skill.

**Pandey (1981)** following the middle way reported that boys mean scores are better for fluency and flexibility than girls. Whereas girls mean scores are better for originality and composite creativity scores as compared to those of the boys.

**Sharma, A.K. and Singh, Gurpal & Jaial (1981)** studies sex roles in verbal creative thinking abilities. The findings of the study were: i) male students scored significantly higher than the female students in fluency aspect of creativity, ii) the female students scored significantly higher than the male in originality aspect of creativity, and iii) no significant differences were found in the flexibility and the total creativity scores of male and female students.

**Singh and Singh (1981)** found that neuroticism is not related either with verbal fluency or flexibility of high school students.

**Sharma, K. (1982)** studied the factors related to creativity. The main objective of the study was to explore the relationship of creativity with certain background, psychological and organizational factors of a student of higher secondary school of Delhi. The major findings were (i) Boys were more creative as compared to girls. (ii) Number of siblings was found to be negatively related to*
creativity. (iii) Creativity was higher in nuclear families and families with higher SES, (iv) Birth order did not have any effect on the creative performance of the students; however, intercorrelation patterns between background variables and creativity were significantly different amongst students at different birth orders. (v) Scholastic achievement was found to be positively related to the measures of creativity. (vi) Creativity was significantly higher in the high I.Q. group in comparison to middle and low I.Q. groups, further, the middle I.Q. was found to be significantly higher than the low I.Q. group. (vii) Perception of teacher behaviour by students was found to be related to creativity in students. (viii) Attitudes of the students towards school, were not significantly related to creativity. (x) Parental preference for conforming behaviour in the children was negatively related to creative behaviour whereas parental preference for independent self-assertion was positively related to creativity. (xi) Parental preference for extraverted and sociable orientation among their children was not found to be related to creativity. (xii) Central School students were found to be most creative; next in order were public, private-aided and government schools respectively. (xiii) Organisational climate of the school was not found to be related to creativity in students.

**B.K. Passi (1982)** in his book “Creativity and Education” has tried to locate all the related researches in the area of correlates of creativity in Indian context. He came across 160 studies. Only four studies were found related with creativity in rural/urban differences, school syste, divergent thinking in school and psychological study of creativity of Indian adolescents. Remaining 156 studies were related with other variables as age, birth-orders, sex, location, socio-economic status, academic subject, intelligence, scholastic achievement & values and personality.

**Singh, K. (1982)** studied the creative thinking of high school students of Himachal Pradesh in relation to some cognitive and non-cognitive variables. The major findings of the study were: (i) The verbal and non-verbal creative thinking scores of high scholastic students were normally distributed. (ii) The high school boys achieved significantly higher scores than the high school girls on the measures of verbal and non-verbal creative thinking. (iii) The verbal, non-verbal and total
creative thinking scores were positively and significantly related with the verbal and non-verbal intelligence of high school students. (iv) The verbal, non-verbal and total creative thinking scores had a positive and significant relationship with the academic achievement of the high school boys and girls. (v) Age was negatively and significantly related to verbal, non-verbal and total creative thinking. (vi) The introversion- extroversion and neuroticism emotional, stability scale had, negative relationship with verbal, non-verbal creative thinking. (vii) Test anxiety was negatively and significantly related to verbal, non-verbal and total creative thinking. (viii) Achievement-Motivation had a positive and significant relationship with verbal, non-verbal and total creative thinking. (ix) Sex was positively and significantly related to verbal, non-verbal and total creative thinking of high school boys and girls.

Agrawal, S. (1982) studied creativity as a function of self-esteem, risk-taking and home background. The study gave the following conclusions: (i) Risk taking more or less, was found to be a positive and significant factor in fostering creativity of both the sexes. (ii) Self esteem was found to be a significant factor to promote creativity, specially in the case of boys. In the case of girls its impact was not very powerful. (iii) Socio economic conditions of the home played no role or very insignificant role in fostering creativity of both the sexes. (iv) In all the designs, parental acceptance was found to be a very significant and positive factor in the development of creativity of both the sexes. (v) Parental rejection was found to be a negative and demoting factor in creative development specially in the case of boys. In the case of girls its effect was not observable. (vi) Except social risk-taking, other types of risk-taking and self-esteem did not interact with each other to affect creativity. (vii) Risk-taking and socio-economic condition did not interact to influence creativity. (viii) Risk taking with its various ramifications did not interact with parental acceptance and rejection to influence creativity. (ix) Self esteem and socio-economic conditions did not interact with each other to affect creativity of either sex. (x) Self esteem and parental acceptance did not interact to influence creativity of either boys or girls. (xi) Self-esteem and parental rejection did no interact significantly to influence creativity. (xii) Risk taking and parental
acceptance were found to be more important predictors of creativity than self-esteem and socio-economic conditions.

**Mishra, K.S. (1982)** studied the effect of children’s perception of Home and School environments on their scientific creativity. The major findings were: (i) girls excelled boys in overall scientific creativity. Girls with high scientific creativity perceived more stimulation in their homes than girls with low scientific creativity. Boys with high scientific creativity perceived less social isolation in their home environment (ii) significant relationship existed between perceived school environment and originality among boys, perceived home environment and overall scientific creativity among girls and perceived home environment and inquisitiveness among boys (iii) Relationship between various aspects of school environment and girls scientific creativity were not significant. For boys, the relationship of creative stimulation and permissiveness were significant but negative (iv) girls perceiving high stimulation in home environment and normal stimulation in school environment obtained higher scores on the overall scientific creativity and originality aspect of it.

**Sharma, K. (1982)** studied the factors related to creativity. The main objective of the study was to explore the relationship of creativity with certain background, psychological and organizational factors of a student of higher secondary school of Delhi. Major findings were: (i) Boys were more creative as compared to girls (ii) Number of siblings was found to be negatively related to creativity (iii) creativity was higher in nuclear families and families with higher SES, (iv) Birth order did not have any effect on the creative performance of the students; however; intercorrelation patterns between background variables and creativity were significantly different amongst students at different birth orders, (v) scholastic achievement was found to be positively related to measures of creativity, (vi) creativity was significantly higher in the high I.Q. group in comparison to middle and low I.Q. groups, further, the middle I.Q. group was found to be significantly higher than the low I.Q. group (vii) perception of teacher behaviour by students was found to be related to creativity in students. (viii) Attitude of students towards school, were not significantly related to creativity. (ix) Parental preference
for confirming behaviour in children was negatively related to creative behaviour whereas parental preference for independent self assertion was positively related to creativity, (x) Parental preference for extraverted and sociable orientation among their children was not found to be related with creativity (xi) central school students were found to be most creative, next in order were public, private-aided and government schools respectively. (xii) organizational climate of the school was not found to be relate to creativity in students.

Tiwana, M. (1982) studied and hypothesized that creative writers were extraverted, neurotic, psychotic and more prove to lying. It was found that the creative writers emerges introvert, neurotic, psychotic and socially confirming.

Choudhary, G.G. (1983) investigated into the trends of creative thinking ability of pupils of the age group from 11+ to 13+ in relation to some psycho-socio correlates. The major findings were: (i) There was no significant difference between the mean creative thinking scores of male and female children of rural and urban areas. (ii) The higher the socio-economic status, the higher was the creative thinking ability of the student. (iii) The higher the n-Ach the higher was the creative thinking ability of the students. (iv) The students with high IQ did not have more creative thinking ability than the students with low I.Q. (v) The students belonging to the high parental behaviour group did not have more creative thinking ability than the students belonging to the low parental behaviour groups. (vi) The student with low anxiety had more creative thinking ability than students with high anxiety. (vii) The higher the security, the higher was the creative thinking ability. (viii) The higher the radicalism trait, the higher was the creative thinking ability of the students.

Verma, J. (1983) studied the differences of the personality patterns of high creative and low creative adolescents. The study found that high creatives had a feeling of insecurity. They were more original, flexible and had a more fertile imagination. Both groups had the same level of expected normal anxiety. Both groups were found to handle their affectional anxiety by introspective efforts, that is, they were able to tolerate their own anxiety.
Singh R.P. (1983) studies creativity in students of two types of schools. The Verbal Test of Creative Thinking developed by Mehdi was used to measure creativity. The difference between mean values of students studying in Central schools and Private schools for fluency, flexibility, originality and composite creativity scores were significant at 0.05 level. The mean values for fluency, flexibility, originality and composite creativity of Central schools students were more than those of the students of Private schools. It means that the students of Central schools tend to have more degree of creativity in them than those studying in Private schools.

Saxena, V. (1983) studied creative components educational as correlates of frustration modes of higher secondary girls students. The findings were: (1) Frustration was affected by creative production, originality, fluency and flexibility in descending order, (2) Frustration scores were affected by interest in commerce, science, medicine, engineering, home science and agriculture in descending order, (3) Aggression was affected by flexibility, creative production, originality and fluency, (4) Educational interests affected aggression, (5) Fixation was affected by creative productive, fluency, originality and flexibility, (6) Fixation was also affected by educational interests, (7) Regression was affected by creative production, fluency, originality and flexibility, (8) Regression was affected by educational interests, (9) Resignation was affected by creativity as well as educational interests, (10) Creativity and frustration had the most positive relationship among them, next in order were educational interest and frustration; creativity and educational interest were least related, (11) In the high creative group, the mode-wise frustration score was greater in the following order: regression, resignation, aggression and fixation while in the low creative group the order was reversed.

Dey B. of Utkal University (1984) found a positive and statistically significant correlations between the creativity and intelligence of NRTS holders. Kumar, K.A. also found a positive correlation between intelligence and creativity.

Singh, B.K. (1984) conducted a psychological study of patterns of personality variables of urban and rural college students of Agra region. The study
had four major personality variables—anxiety level, adjustment level, frustration level and interest pattern of rural and urban college students. Rural students were found to have a higher level of anxiety and frustration than urban students.

Chauhan, Y (1984) studied the four components of creativity in terms of their contents, processes and products and analyzing them in a psycho-cultural framework of factors like culture conformity, value orientation, sex and frustration. The conclusions were: (i) even the sensitive and useful correlates of the four components of creativity required assistance of each other before they became ‘vocal’ in context (2) components of adolescent creativity were clearly sex sensitive. Their sensitivity was actually “Sex Bilateral” instead of ‘Sex Unilateral.

Ramjee Lal (1984) reported that high creative adolescent exhibited a greater introversive tendency as compared to their less creative counterparts. This was further shown by the negative correlation between creativity and the introversive extraversive balance.

Rathi Devi, K. (1984) concluded that out of 18 independent variables studied, 16 correlated significantly with creativity. All the 16 variables which correlated significantly with creativity, differentiated significantly among subjects at different creativity levels. The correlates of creativity identified in this study can be used for identifying creative talents and possible also for predicting creative talents. The possibility that creativity can be developed by improving the correlated variables, pointed to the possibility of development of new educational strategies for students of high creativity.

Purandare, V.M. (1984) of Puna University studied Anxiety and Strategies in serial verbal learning. He concluded that low anxious subjects were better in performance in serial verbal learning task than high anxious. A negative relationship between anxiety and achievement was indicated in the studies of Mehrotra (1986).

Vora (1984) investigated the Impact of Divergent Thinking Programme in Mathematics on Creative Levels of the Children of Classes VII and VIII. Major findings of the study were: (i) The creativity increased as a result of treatment of the Divergent Thinking Programme in Mathematics (DTPM) with and without feedback at both grades. (ii) The Divergent Thinking Programme in Mathematics was equally
effective in both groups of boys and girls. (iii) The experimental group proved superior with respect to a component of creativity namely, fluency and originality after taking the DTPM than the other group. (iv) There was a significant increase in the scores of the first group of students who were given feedback on the component of the fluency of creativity. (v) There was no significant graded difference in creativity scores measured on post test. (vi) There was no significant difference between the means of both sexes even after taking the DTPM. (vii) The programme worked well for both high creative and low creative students of classes which was quite favourable and encouraging.

Methi, S.N. (1985) conducted a study on an investigation into the relationship between organizational climate of schools and diffusion of innovations. The major findings were: (1) Paternal climate was the most frequently perceived followed by controlled, autonomous, open, familiar and closed, (2) In rural schools, the controlled climate was more frequently seen whereas closed climate was the least, (3) In urban schools and boys schools the paternal climate was mostly seen while open climate was seen the last in these schools, (4) All dimensions of diffusion of innovations were found positively significantly related with their school climates of Govt. girls, big, urban and small rural groups of schools, (5) Significant difference was found between govt. schools and recognized schools in the proportion of distribution in terms of their organizational climate, (6) Boys secondary schools did not differ from secondary schools in terms of their proportion of distribution of climate types.

Sharma, M.P. (1985) studied the organizational climate in Universities of Rajasthan. He found ‘closed’ and ‘intermediate’ type of climates in University departments, except a very few with open climate.

Petershene, Susan, S. (1985) in an article “Ten Minute Think Sessions” found that, short creative thinking sessions can help fill the time between classes while encouraging students to develop all of their thinking processes Activities are offered that required organizing, imagining, observing, patterning and questioning skills.
Barinder, M. (1985) studied General Anxiety and Test Anxiety with reference to environmental factors and extraversion-introversion of Delhi students. It was found that (i) sex was significantly related to anxiety, both general and test anxiety (ii) girls exhibited more general anxiety as well as test anxiety, than boys (iii) there was a positive relationship between general anxiety and test anxiety.

Jahan, Q. (1985) conducted a study of personality profiles of students of science, arts and commerce at higher secondary level of Education in relation to their academic achievement. It was found that the over achievers of science stream were more reserved, intelligent, emotionally stable, excitable, obedient, sober, conscientious, shy, self assured, self sufficient, controlled and relaxed as compared to under achievers. The over achievers of arts stream were more warm hearted, intelligent affected by feeling, undemonstrative, assertive, enthusiastic, conscientious, zestful, apprehensive and tense as compared to under achievers. The over achievers of the commerce stream were more reserved, intelligent, affected by feelings, sober, conscientious and self assured as compared to under achievers.

Yawalkar, V. (1985) investigated in the efficacy of two creative teaching techniques, viz. Bionics and Morphological analysis conducive to develop some personality correlates to scientific creativity. The personality variables under study were: self-reliance, dominance, emotional, venturesome, super-ego strength. The findings were: 1. The Bionics group had shown positive gains on four variables i.e. emotional, dominance, superego strength and self-reliance, and negative gains on one variable-venturesome. 2. The Morphological analysis group had shown positive gains on three variables i.e. dominance, superego strength and venturesome and negative gains on two variables emotional and self-reliance. 3. The control group had shown a general decline on all the five variables. 4. The comparison of differences in mean gains of Bionics and Morphological analysis had shown that the gains on three variables- emotional, dominance and self reliance were more in the Bionics group whereas the gains on superego strength and venturesome were more
independence of cognitive styles, 13 of the 15 needs, and all the six values. 5. The results of the analysis of variance revealed that the main effect due to the variable of creativity were significant for the measures of cognitive styles, various needs, namely, n-achievement, n-deference, n-order, n-exhibition, n-autonomy, n-affiliation, n-intracception, n-succorance, n-dominance, n-nurturance, n-change, n-endurance, n-heterosexuality, and all six measures of values. 6. The interactional effect of creativity and intelligence was significant only for one measure of need, i.e., n-nurturance and one type of value, i.e. religious value. 7. Creativity significantly contributed towards variance on all measures of cognitive styles, needs and values except n-order, n-abasement and n-aggression. 8. Intelligence did not lead to significant differences on all these variables except n-endurance and n-aggression in its interaction with creativity also, intelligence had contributed significant variance only towards n-nurturance and religious values.

**Sharma, R.V. (1985)** investigated into achievement motivation, anxiety and value orientation of creative teachers. The findings of the study were: (i) The total sample of high creative scored significantly higher than the low creative on achievement-motivation. (ii) Significant differences on mean achievement-motivation scores were found between high and low creative groups in each case except rural males and urban females in the favour of high creative. (iii) The total sample of high creative was found to be significantly more anxiety-ridden than the total sample of low creative. (iv) Though higher mean anxiety scores were obtained by all high creative groups except one, the difference was significant in only five cases. (v) On democratic and family prestige values none of the 13 comparisons yielded any significant difference between high and low creative groups.

**Dubey, Sushma (1986)** attempted to provide empirical support to ecological conceptualization of creative thinking/creativity. It was found that age, space, school education environment, family education environment and social class were found to have significant positive main effects on creative thinking in children. The interaction between age and space, space and school education environment and
school education environment and family education environment had significant effect on creative thinking.

Raina, K. (1986) studied psycho-social correlates of scientific creativity among High School students. The findings of the study were: (i) Achievement in science was significantly related to scientific creativity (ii) The problem solving ability was significantly related to three components of scientific creativity, viz. fluency, flexibility and originality (iii) Boys and girls differed on the intelligence and fluency components of scientific creativity and girls had higher scores on these than boys. (iv) Missionary school students were more creative than those of private and government school and students of private school were more creative than their counterparts studying in the government schools (v) students who had high problem solving ability in science were more creative in science than their peers with middle and low problem-solving ability (vi) The mean scientific creativity score of high achievers in science was more than that of middle and low achievers. Further, middle achievers were more creative than the low achievers in science. (vii) Socio-economic status of students did not affect their scientific creativity.

Mishra, B.C. (1986) observed creativity in students of two types of schools. Area of the study was Sambalpuri in Orissa. It was found that the students of central school were significantly better in fluency, flexibility, originality and elaboration components of creativity.

Mishra K.S. (1986) observed the effect of children perception of home and schools environment on their scientific creativity concluded that Home environment is more powerful that school environment and may have idiosyncratic effects on the development of scientific creativity.

Richardson (1986) found significant difference in favour of the females beyond the .001 level. In addition to this, there was large number of significant correlations sex of the subjects and performance on the creativity measures was examined. Confirming the trend, female superiority over male in creativity, Stimpson (1986) observed boys to be less creative than girls.

Brar, S.S. (1987) studied development of creativity in relation to intelligence among the school children of 13 to 18 years age some of the major findings are: 1.
There was a considerable increase in the growth of all the four components of figural creativity, viz, fluency, flexibility, originality and elaboration in the eighth grade. 2. All the four components of figural creativity developed at quite a high rate of growth in the eighth grade. Stumps in the ninth grade were observed in the growth of figural fluency, figural flexibility and figural originality. 3. There was more recovery in figural creativity components after the pared to the average intelligent group and the low intelligent group formed on the basis of fluid intelligent test scores. 4. There was a significant positive correlation between achievement, motivation and creativity of students. 5. There was a positive correlation between creativity and mental ability of students.

Ganeshan V. (1987) conducted a study on knowledge workers: Organizational climate for creativity. The main findings were: (1) Creativity of knowledge workers and their innovative performance had a positive but insignificant relationships, (2) Organizational climate by itself was related to innovative performance when creativity was controlled, (3) High and low creative did not differ in their work attitudes, (4) Organizational climate facilitated the fulfillment of self-actualization needs, (5) High creative people expressed creativity outside the organization when organizational climate for creativity was low, (6) Low organizational climate for creativity and satisfaction of achievement, affiliation and autonomy needs did not go together, (7) High creative people were not more willing to use their creativity than low creative people where reinforcement was lacking.

Trimurthy, S.P. (1987) studied creative thinking ability of secondary school students in the context of some psycho-socio-factors. The main findings were: (1) No styles were used in K.F.D. of gifted and average children, (2) Out of 69 actions used in 257 drawing drawings produced by gifted and average children, it was found that 64 actions were common with the list of actions prepared by Sims, (3) The gifted and average children used 141 symbols in the K.F.D. out of which 100 symbols were common with the list of symbols prepared by Sims.

Singh, K.P. (1988) studied creativity in relation to achievement-motivation, personality needs and security-insecurity of secondary student of rural areas of Rajasthan. The main findings of the study were: (i) The students of the high
achievement-motivation group; (ii) There was no difference in the creativity scores of the students having high and low personality needs; (iii) There was no difference in the creativity scores of the students who felt secure or insecure; (iv) Science and arts students differed significantly with respect to their scores of creativity, achievement-motivation and personality needs, in favour of science students.

John, C.D. (1988) conducted the study focuses on familial and school correlates of creativity of standard IX students. The major findings of the study were: (i) Sex and family type of Standard IX students did not affect their verbal, non-verbal and total creativity, (ii) The smaller the size of the family of standard IX students, the higher was their level of verbal and total creativity. However, this trend did not prevail with respect to size of family and non-verbal creativity; (iii) The higher the SES of the parents, the higher was their level of verbal, non-verbal and total creativity, (iv) The more the parent-child interaction, the higher their non-verbal and total creativity. However, this did not prevail in the verbal component of creativity and (v) Anxiety and achievement values of students did not affect the verbal, non-verbal, and total creativity.

Saxena (1988) conducted a study of the impact of family relationship on anxiety of high school students and found anxiety did not significantly influenced by family relationships. Girls were more anxious than boys.

Rajagopalan, S. (1988) studied creativity of secondary school students in relation to classroom climate. The major findings were: (i) on the whole, the creative level of students of Madurai city was low (ii) There was a dearth of originality amongst students. Students studying in class IX had high originality as compared to students studying in class VIII. (iii) the high classroom climate was found effective on the creative level of students of classes VIII & IX (iv) Mental ability did not have any effect on the creative level of students studying in class VIII, whereas it had a significant effect on the creative level of students of class IX. (v) There was a significant positive correlation between achievement motivation and creativity of students of class VIII while correlation between achievement motivation and creativity for students of class IX was not significant. (vi) There was a positive
correlation between classroom climate and creativity of students of class VIII and IX. Finally it was concluded that high mental ability and classroom climate were conducive to the growth of creative talent.

**Gupta, Krishna Kumari (1988)** conducted a study to focus on creative development of secondary school children in relation to sex, intelligence and urban and rural background. Major findings were (i) creativity was enhanced in primary school children when they were taught through brainstorming sessions (ii) Both male and female primary school children had similar enhancement in creative abilities, such as fluency, flexibility and originality when they were taught through specially prepared creative programmes.

**Chandola, Lata (1988)** reviewed the organizational climate of 71 sub-urban schools and found that each institution had a unique organizational climate of its own and quality of the organizational climate varied directly in proportion to the quality of leadership and motivation it had. The OCI factors were intellectual climate, achievement standards, personal dignity, organizational effectiveness, orderliness and impulse control.

**Mehra, Ruby (1988)** focused on personality needs as the determinants of creativity. It was found that high creative boys were significantly higher in all needs except n-defuse while creative girls were significantly higher in needs.

**Sumangala, V. (1988)** conducted a study on some psychological and social-familial correlates of creative behaviour among secondary school children. The major findings were: (1) The robust creativity - associated psychological and social-familial variables combining the results of two-tailed 't'-test, r's and high-creativity loaded factors indicated by factor analysis were the psychological variables and the social-familial variables, (2) The psychological variable 'self-concept' and the social-familial variable 'ordinal position in the family' had no association with creativity, (3) The psychological variables, 'examination anxiety' and 'general anxiety' had no negative relation with creativity, (4) The social-familial variable, 'family size', was negatively related to creativity, (5) The difference in the number of factors, nature of factors and the amount of variation in each suggested that the psychological factor structures as well as the social-familial
factor structures of high-creative, average-creative, and low-creative groups were different. The differing factor structures added evidence to the strong association between creativity and many of the select psychological and social-familial variables.

**Dutta, K.L. (1989)** studied the difference in scientific creativity among high school students. The findings of the study were: (i) sex difference did exist in scientific creativity (ii) Scientific creativity was a normally distributed trait. (iii) Scientific creativity depended on intelligence, academic achievement and socio-economic status. Dominant factors of scientific creativity were fluency, flexibility and originality in the case of boys and girls (investigation). Fluency and flexibility as factors of creativity depended upon intelligence but were independent of academic achievement and socio-economic status (v) In both sexes, scientific creativity was focused to be independent of SES but dependent upon intelligence.

**Gupta, A. (1989)** investigated the effect of family attachment on personal values, creativity and educational achievement of the girls of small and big families. The main findings of the study were: (i) In the case of girls of small families significant effect of family attachment was found on creativity but these results were not valid for the girls of big families, (ii) The size of the family did not affect the creativity of the girls, (iii) Negative relationship was found in personal values and creativity among the girls of big families, (iv) Positive relationship was found in personal values and educational achievement as well as creativity and educational achievement the girls belonging to big families.

**Irudayaraj, M. (1989)** investigated the relationship between creativity and scholastic achievement in Science of Standard X students in Devakottai Education District. The main finding of the study was: (i) There was no significant relationship between science achievement and creativity of high schools students.

**Joshi (1989)** in his study attempted to study creativity in relation to personality, locus of control and alienation. Major findings were (i) All the four groups (management, medicine engineering and law) were found to be significantly different on the various measures of creativity, personality, locus of control and
alienation, (ii) Engineering as a group emerged to be significantly high on fluency and originality followed by the medicine, management and law groups. This group was found to be highest on flexibility and elaboration followed by medicine, law and management groups, (iii) Extraversion, neuroticism and powerlessness were the highest in the engineering group followed by the law, medicine and management groups, (iv) The medicine group scored the lowest on psychoticism and social isolation and the engineering group yielded the highest on these two variables, (v) Females were reported to be higher on fluency, originality, extra-version and neuroticism than males.

Asthana (1990) throws light on internal and external conditions of control as determinant of performance, in relation to personality characteristics and individual’s locus of control. Major findings were: (i) It was found that internal warm-hearted, emotionally stable and assertive individuals performed better if they worked under intrinsic motivation, (ii) Those who were reserved in nature performed better under the condition of external reinforcement- praise, (iii) Those who were relaxed and were external in their locus of control did not perform well under any condition of control, (iv) Those who were warm-hearted assertive, adventurous and tense, performed well, irrespective of conditions of control.

Reddy, Sudhakara (1990) conducted an investigation into the creativity of adolescent boys and girls. The finding of the investigation were: i) in case of verbal tests urban children were found to be more creative than rural children. ii) boys scored better than girls, iii) the difference between means was not significant; similar results were obtained for all the three components of creativity viz. fluency, flexibility, originality and all composite creativity, iv) in case of non verbal tests boys scored significantly better than girls and v) rural children tended to score better than urban children on all components.

Padhan, G. (1990) studied creative thinking in relation to socio-economic status and scholastic achievement of the higher secondary students of Baroda city. The main findings of the study were: (i) Sensitivity, fluency, thinking, (ii) There was no significant relationship between creative thinking and socio-economic status.
However, it was found that there was significant and positive relationship between creative thinking and scholastic achievement, (iii) Relationship of fluency and originality with socio-economic status was found significant while relationship between flexibility and socio-economic status was found to be insignificant. However, it was found that there was a positive and significant relationship between fluency, flexibility originality and scholastic achievement.

Chadha, N.K. and Chandna, S. (1990) conducted the study deals with the correlation between creativity, intelligence and scholastic achievement. The findings of the study were: (i) Correlation was positive and significant, between creativity and intelligence, creativity and scholastic achievement, and intelligence and scholastic achievement, (ii) Intelligence Quotient correlated with creativity and scholastic achievement, (iii) There was positive and significant correlation between intelligence and scholastic achievement when the effect of creativity was partialled out, (iv) There was negative and significant correlation between creativity and scholastic achievement when the effect of intelligence was partialled out.

Ramchandran (1990) studied the relationship between performance and anxiety and found that there was a low negative correlation between academic performance and anxiety.

Roy, D.K. (1990) studied the personality differential of adolescents with scientific creativity in relation to environment. He found that higher scientific creativity adolescents differed markedly from the lower scientific creativity adolescents in terms of most of the personality traits. Both the groups differed significantly.

Thiagavathi (1990) studied academic achievement in relation to creativity and anxiety. The relevant feelings with respect to anxiety: anxiety had only a negative influence on academic achievement.

Gross (1990) inquired into the general test and state anxiety in real examinations, state is not test anxiety. He examined the performances of college students on class examinations in relation to scores on test attitude inventory. State trait anxiety inventory and state test anxiety report. The amount of worry that Ss
believed they experienced during examination performance Ss who reports worrying during examinations also did more poorly on examination relative to those who believed they worried less. Neither test nor state anxiety was related to gains in performance. Results suggest that test anxiety students may not prepare well for examinations.

Biswas, P.C. Paras and Biswas, S. (1991) reported that high creative were more distinctly marked by their emotional and temperamental traits. They were aggressive, varied in affective life, sensitive to shift in mood tones, tolerant of frustrated experiences, and exhibited signs of infra-psychachic conflict about the oedipal relationship. Their achievements were found to be determined by super-ego demands and a need to satisfy narcissistic desires. Further they were characterized by preference and tolerance for ambiguity, stimulus complexity and structural openness.

Badola, S. (1991) studied locus of control, achievement-motivation and anxiety as correlates of creativity. The findings of the study were: (i) Creativity and locus of control were positively related with each other in the case of general students. (ii) There was no significant relationship between creativity and achievement-motivation with respect of creative students in general, (iii) There was a positive and significant relationship between high creativity and anxiety with respect to total creative students.

Gakhar Sudesh (1991) studied Interaction of Structures in instructional material with creative training. The major findings of the study were: (1) The F-ratio of the difference in means of the correct scores of the four instructional methods was found to be significant. This suggests that the four groups may not be considered equal on their average achievement scores. (2) All the instructional methods (Ausubel’s Model, Bruner’s Model, Gagne’s Model and Traditional Teaching) under investigation yielded significantly different achievement scores. Further, Ausubel’s Model produced better results than the other three models, (3) The F-ratio for the interaction between instructional models and creativity training was significant. (4) The means of three instructional models were not significantly
different whereas the n-teaching group showed significantly higher mean score on creativity. (5) The Burner’s Model group and Gagne’s Model group showed almost equal total creativity scores. (6) The creativity training did not affect the total creativity scores through Bruner’s and Gagne’s Model. (7) The no-teaching-Ausubel Model, the no-teaching-Burner Model and the no-teaching-Gagne’s Model were found to differ significantly so far as fluency scores were concerned. (8) The interaction between instructional models and creativity training was found to be significant, revealing that the effect of different models may not be considered independent of the effect of the creativity training. (9) The difference in means of the corrected scores of the four instructional methods was found to be significant. (10) All the instructional methods under investigation yielded significantly different flexibility scores. (11) The interaction between instruction between instructional models and creativity training was found to be significant. (12) The mean flexibility score of the traditional teaching group was the highest when the groups were not given creativity training. The Ausubel Model group without creativity showed a higher mean flexibility score then its counterparts, which suggests that creativity training deteriorate the flexibility score of the Ausubel’s Model group. (13) There existed a non-significance of difference in means of the corrected scores of the four instructional methods on their average originally score. (14) An examination of means of the four groups revealed that student learning achievement through the Ausubel Method was the best among the four groups. The corrected achievement score due to the Ausubel model was found to be the highest. Achievement of students through traditional teaching was the poorest among all the instructional methods. (15) The corrected creativity score due to higher creativity level students was found to be the highest. (16) An examination of means showed that the corrected creativity score due to traditional teaching was the highest. The Ausubel Model group produced the second highest creativity score and the Bruner and Gagne group performance was almost equal. (17) The Ausubel, Bruner, and Gagne groups did not differ significantly from each other with regard to their fluency scores. (18) High and low creativity groups differed only marginally as far as their flexibility scores were concerned. (19) There existed a non-significant difference between
high, middle and low creativity groups as far as originality scores were concerned. (20) The effect of instructional models was independent of levels of creativity (21) The originality score was the highest for the high-creativity level and lowest for the low-creativity level even without creativity groups of with and without creativity training were not different from each other on their originality scores.

**Pardhan, C. (1991)** observed the effect of school organizational climate on the creativity, adjustment and academic achievement of secondary school students of Orissa. Major findings were 1) the school organizational climate was found to be significantly affecting the students’ score of creativity. 2) the school organizational climate did not affect the uniqueness score of creativity, home adjustment, the social adjustment, the health and emotional areas of students, and the school adjustment of students, 3) the school organizational climate significantly affected the academic achievement of students.

**Singh (1991)** attempted to determine creativity and intelligence as correlated to teaching effectiveness in secondary school teachers. The sample included 150 male and 150 female secondary school teachers of Punjab, selected through the multi-stage stratified random sampling technique. The instruments employed in the study included the Torrance Tests of Creative Thinking (Verbal Form A), The Samoohik Mansik Yogyata Pariksha (Group Test of Intelligence) by R.K Tondon, and the Teacher Effectiveness Scale by Pramod Kumar and D.N Mutha. Coefficient and correlation, regression lines and their standard errors of estimation, multiple correlation and F-ration were calculated while treating the data. Major finding were (i) Among the male and female teachers, teaching effectiveness was positively related with fluency, flexibility, originality, composite creativity and intelligence, (ii) Creativity and intelligence taken jointly were considered better predictors of teaching effectiveness than taken separately.

**Bhargava, S. (1992)** studied achievement motivation and creativity in relation to locus of control of socio-culturally deprived and non-deprived adolescents. The major findings are: (i) The deprived and non-deprived adolescents did not differ from each other regarding their locus of control. (ii) The subjects
having internal locus of control and external locus of control differed significantly in their need-achievement. (iii) Socio-cultural deprivation and locus of control, when in interaction, did not differ in terms of need achievement. (iv) The deprived and non-deprived adolescents differed significantly in their total creativity scores as well as the scores for fluency and flexibility. No difference was observed in their originality scores (v) Adolescents having internal locus of control and external locus of control differed significantly in their total creativity scores, fluency scores and originality scores, but there was no difference in their flexibility scores. (vi) The interaction of socio-cultural deprivation and locus of control did not affect the total creativity scores or the scores on all the dimensions of creativity.

Jayajothy, K.V. (1992) conducted a study on organisational climate and leadership behaviour of principals in relation to teacher morale in Central Schools. The major findings of the study were: (1) The Central Schools of the Madras region differed in their climate, 18.75% had ‘open’ climate; 12.5% had ‘controlled’ climate; 6.25% had ‘familiar’ climate; 6.25% had ‘paternal’ climate; and 37.5% had ‘closed’ climate. (2) Experience and age did not discriminate the perception of school climate, teacher morale and leadership behavior. (3) The ‘open’ climate related best to the perception of leadership behaviour of principals by the teachers, and the ‘autonomous’ climate had the least relationship. (4) Female teachers had a better perception about the leadership and teacher morale. (5) Sex was not a discriminator of perception of school climate. (6) Leadership behaviour differed with climate.

Gupta, H. (1992) Studied the relationship between locus of control, anxiety level of aspiration and academic achievement. The study revealed locus of control to be the best predictor of academic achievement followed by level of anxiety and level of aspiration in the adolescents. In general low achieving students were found to possess high anxiety and were more external in their locus of control. Boys were found to be higher achievers than girls and more internally controlled and less anxious.
Kumari, K. (1992) studied creativity of ninth graders in relation to their socio-economic status, achievement-motivation and adjustment. The findings of the study were: (i) Creativity and SES were positively correlated, (ii) Achievement need was positively correlated with total correlation, (iii) When the effect of SES was partialled out, the magnitude of correlation between n-achievement and all the four creativity measures was reduced and remained significant only for fluency, (iv) When the effect of SES and adjustment was partialled out, n-achievement, which was originally positively correlated with flexibility and total creativity, did not remain so, (v) Total creativity, flexibility and originality were not related with adjustment. Fluency was positively related with adjustment. When the effect of SES was partialled out, the adjustment was not related with total creativity, fluency, flexibility and originality. (vi) Prediction of creativity was not significantly better when made on the basis of the conjoint effects of sex, n-achievement, and adjustment than if made on the basis of either of the three independent variables. This was true for total creativity as well as fluency, flexibility and originality.

Kaur, P. (1992) studied the relationship among creativity, intelligence and academic achievement in different subject for X graders. The main findings of the study were: (i) For males, intelligence was positively correlated with fluency, flexibility, originality and composite creativity, (ii) (a) for males fluency, flexibility, originality and composite creativity were positively related with achievement of Punjabi, Hindi, English, Mathematics and General Science and originality and composite creativity were also related with achievement in social studies. (b) For females as well as the total sample fluency, flexibility originality, and composite creativity were positively and significantly related with achievement in each of the five subjects. (iii) For males when intelligence was partialled out (a) Fluency was positively related with achievement in Punjabi but negatively with Social Studies but not with the other subjects, (b) Flexibility was not related with achievement in any of the six subjects, (c) Originality was positively related with achievement in Punjabi, and mathematics, (d) Composite creativity was related with achievement in Punjabi and mathematics but not with the other four subjects. (iv) For females when intelligence was partialled out (a) Fluency was positively relate with achievement in
all the subjects, except General Science, (b) Flexibility was related with achievement in the three languages but not with the other three subjects, (c) Originality as well as composite creativity were related with achievement in all the six subjects. (v) For the total sample when intelligence was partialled out fluency was related with achievement in Hindi and English originality was related with achievement in the three languages and General Science, composite creativity was related with achievement in all subjects (r from 0.11 to 0.16) except Social Studies. (vi) For both males and females, when the effect of creativity or its dimensions was partialled out the inter-correlations between intelligence and achievement ranged from 0.16 to 0.61 and from 0.28 to 0.50 for the total sample. (vii) Intelligence was found to be a better predictor than fluency, flexibility and originality of achievement in all subjects. Intelligence was also a better predictor of achievement in all subjects than the total creativity except in the case of females where achievement in English and Hindi was slightly better predicted by composite creativity.

**Gautam, Shashi (1992)** conducted a study on Development of creative thinking and leadership among Navodaya Vidyalaya students. The major findings of the study were: (1) There was a significant development pattern of creative thinking among the Navodaya Vidyalaya students of Himachal Pradesh in the case of the dimensional components of fluency and flexibility but not in the case of the originality component of creative thinking. (2) There was no significant sex difference in the development pattern of creative thinking, though girls tended to be more creative than boys on dimensional scores of fluency, flexibility, and originality, as well as on total scores of creative thinking. (3) The high and the low socio-economic status groups of students did not differ on creativity. (4) There was a significant development pattern from Grades VI to VIII among students of Himachal Pradesh in the total leadership behaviour. (5) The low SES students exhibited better leadership qualities as compared to their high SES counterparts. (6) There was a significant development pattern of communication qualities of leadership behaviour among students.

**Solanki, Kantilal N. (1992)** studied the relationship between the educational management and the organizational climate of the secondary schools of Saurashtra
region. The major findings were: (1) The educational management of a school depended upon the resources of the school system. It was independent of sex, of student population, of organizational management and place of school but mostly depended upon the human, educational and physical dimensions of the resources. (2) The secondary schools differed among themselves in their organizational climate of secondary schools appeared to be independent of organizational management, place of school and sex of the student population. (3) There was a relationship between the resource management system and the organizational climate of the schools; highly resourceful schools were included towards the open range climate, whereas the low-resourceful and very-low resourceful schools were inclined towards the closed range climate.

Mary, Shakunthala G. (1992) conducted a study of creativity of class VI and class VII children in relation to some variables. The major Findings of the study were: (1) Boys were found to be better than girls on the fluency component of verbal creativity. Class VII children scored higher than their counterparts in Class VI on the fluency component of verbal creativity. (2) There was a significant difference between intelligence and creativity as measured by verbal tests and non-verbal tests put together. Similar results were obtained for creativity and SES. But this was reversed in the case of intelligence and SES. (3) There was no significant difference between creativity and self-concept, scientific attitude, and level of adjustment. This was true for both verbal and non-verbal tests and for all components of creativity. (4) There was a significant negative relation between creativity and emotional maturity. This was true for most of the components of creativity as measured by either verbal or non-verbal or both types of tests put together. (5) There was no significant relationship between aesthetic, political or theoretical values. This was true for verbal and non-verbal tests or for both types of tests put together. (6) There was a significant relationship between social values and creativity as measured by verbal tests and by both types of tests put together, but not in the case of creativity as measured by non-verbal tests. (7) Similar results were obtained in the case of theoretical values but the correlation coefficients were negative. (8) In the case of economic values, all the correlation coefficients except for verbal originality were
insignificant. (9) There was no significant association between creativity and type of family, affinity between the members of the family, number of friends the children had, and way of doing things (conventional/ unconventional). This was true for creativity as measured by verbal tests and non-verbal tests and by both types of tests put together. (10) There was a significant association between creativity as measured by non-verbal tests and the frequency with which the children read magazines, storybooks, etc., but not as measured by verbal tests. (11) In the case of creativity as measured by non-verbal tests, fluency accounted for 80.86% of the variance; flexibility for 70.20% originality for 77.45% and composite creativity for 80.87% (12) Class, sex, intelligence, SES were the most prominent contributors to the variance in creativity in general.

Verma, B.P. and Bhat, R.K. (1992) conducted the study attempts to find out the motivational differences in terms of psychological needs among high and low creative students. The major findings of the study were: (i) High and low creative students did not differ significantly from each other with respect of their motivation, (ii) High and low creative students did not show any marked difference in their psychological needs. This was observed in the case of female student also, (iii) High creative male students and high creative female students differed significantly on the abasement need, and the mean difference was in favour of high creative female students, (iv) Low creative male students had stronger need for exhibition than low creative female students, who had stronger need for application than low creative male students.

Joshi (1992) attempted to study Classroom morale in relation to locus of control, creativity and parental-encouragement of pupils in Hindi-medium and English-medium school. Major findings of the study were: (i) Type of school (a) (English medium of Hindi medium) taken independently had no effect on the classroom morale both for boys and girls. (ii) The interaction between (A) and locus of control (B) was not significant with respect to classroom morale. (iii) (A) as well as creativity (C) taken independently had no effect on classroom morale for boys.
(A) × (C) had no effect while (C) independently was significant with respect to the classroom morale of girls.

**Bhargava (1992)** aimed at studying the locus of control in relation to achievement motivation and creativity among socio-culturally deprived and non-deprived adolescents. Major findings of the study were (i) The deprived and non-deprived adolescents did not differ from each other regarding their locus of control. (ii) The subjects having internal locus of control and external locus of control differed significantly in their need-achievement. (iii) Socio-cultural deprivation and locus of control, when in interaction, did not differ in terms of need-achievement. (iv) The deprived and non-deprived adolescents differed significantly in their total creativity scores as well as the scores for fluency and flexibility. No difference was observed in their originality scores. (v) Adolescents having internal locus of control and external locus of control differed significantly in their total creativity scores, fluidity scores and originality scores, but there was no difference in their flexibility scores. (vi) The interaction of socio-cultural deprivation and locus of control did not affect the total creativity scores or the scores on all the dimensions of creativity.

**Gupta, H. (1992)** studied the relationship between locus of control, anxiety level of aspiration and academic achievement. The study revealed locus of control to be the best predictor of academic achievement followed by, levy of anxiety and level of aspiration in the adolescents. In general low achieving students were found to possess high anxiety and were more external in their locus of control. Boys were found to be higher achiever than girls and more internally controlled and less anxious.

**Arora, R.K. (1992)** studied interactional effect of creativity and intelligence on emotional stability. Personality and academic achievement and found that both creativity and intelligence interact upon behaviour and performance. The extent of development of the traits depends to a greater extent on the degree of creative personality and intelligence possessed.

**Mishra and Panda (1992)** studied perceived organizational conflict as a function of teacher’s personality. They found that teacher with different personality
make up interact differently in problematic situation to resolve to their conflicts with headmaster.

Kothari (1993) studied effect of locus of control on anxiety and achievement motivation. Major findings were (i) The internals differed significantly from the externals in their anxiety (ii) It was found that the externals were more anxious than internals. (iii) It was also found that the internals differed significantly from externals on their achievement-motivation. (iv) On comparing the internals and externals, it was found that the internals were significantly high achievement motivated than externals.

Sansanwal, D.N. and Sharma Diplika, (1993) conducted a study aimed at examining the effect of intelligence, self confidence, sex and standard on scientific creativity. It was found that mean scientific creativity scores of students belonging to classes IX and X differed significantly. The mean scientific creativity of students belonging to class X was found significantly higher than that of class IX. Male and female students did not differ significantly in scientific creativity. Interaction between standard and sex did not differ significantly on scientific career maturity. The interaction between standard and sex did not have any significant influence on scientific creativity. Scientific creativity score of students having high and low levels of intelligence did not differ significantly. The mean scientific creativity score of students having high self confidence differed significantly from low self confidence group.

Singh, Bansh Gopal (1993) studied creativity as a function of reinforcement oriented teaching strategy as perceived by pupils. It was found that (i) creativity could be predicted more precisely by considering the perception of treatment based on principle that expect and demand creative behaviour from the students. (ii) Students are stimulated differentially by their different perceptions of the actual treatment and therefore, impact of actual treatments differed for different students.

Rama Devi, M and Subrahmanyam (1994) aimed to study to ascertain the relationship, if any, between personality characteristics and creativity among pupils of Class VIII. It was found that on the whole high creatives and low creatives
different significantly on the personality factor ‘A’ and ‘Q3’ only. On the remaining factors there was no significant difference between high creatives and the low creatives. Positive but not significant relationship was found between creativity and factor ‘B’, ‘E’, ‘F’, ‘G’, ‘H’, ‘O’ and ‘Q4’ as measured by the HSPQ. Negative but not significant relationship was fund between creativity and factors ‘C’ and ‘I’ of HSPQ.

Sohi (1994) did a study of locus of control, self-concept and rigidity in relation to creativity among tenth graders. Major findings were (i) Locus of control was found to be a significant and efficient predictor of creativity. The lower the locus of control, the higher the creativity and conversely the higher the locus of control the lower the creativity. (ii) Creativity and Self-concept were significantly and positively correlated. (iii) Composite creativity and its dimensions except the dimension of fluency in males, were significantly related with he rigidity of both male and female. (iv) Self-concept was found to be a good predictor of creativity, but was less efficient than locus of control. (v) Rigidity was found to be the poorest predictor of creativity in males as well as females. (vi) Prediction of composite creativity and its dimensions was not found significantly higher in both males and females as a result of combined contribution of locus of control, self-concept and rigidity than the separate prediction using these variables. (vii) Self-concept when combined with locus of control, did not significantly contribute towards the prediction of creativity variables. (viii) Locus of control was found to be the largest contributing variable towards the prediction of composite creativity and its dimensions followed by rigidity.

Gulati, Sushma (1995) edited a book “Education for Creativity”. This book is divided into three parts. The first part ‘understanding Creativity’ deals with the different approaches to explain the meaning and nature of creativity with more emphasis on ‘Process’ and ‘Person’ approach. The second part of the book is ‘Indentifying Creative Potential’. The third chapter stresses that the best evidence of one’s creativity is in terms of what one produces. The third part indeed is the heart of the book. The first section of this part deals with school as the center of creative
activities and the second section has a set of chapter on creativity in teaching. Chapter five plays the ground for nurturing creativity. It subscribes to the viewpoint that conducive environment is necessary for creative expression and performance. This chapter specifies factors of environment as home, school and community that impede and facilitate creative potential with examples from Indian situations.

Gupta, S.M. (1995) studied the effect of social class status on creative ability of students. Major findings were: (i) Mean creativity scores showed that advantaged group students were more creative than disadvantaged students. (ii) The mean creativity scores showed that boys were found to be more creative than girls. (iii) The urban students were more creative than rural students. F-ratio for two factor interaction was not found to be significant. The mean creativity scores showed that upper caste students belonging to urban areas were most creative while scheduled castes and backward class students belonging to rural areas were least creative.

Kauser, Fatima and Jabeen, Zaheda (1995) studied giftedness and creativity among elementary school children with reference to age and gender. Major findings were: (i) There was a significant correlation between 7-8, 8-9, 9-10, 10-11 year old children with regard giftedness and creativity. (ii) There was a significant difference between boys and girls of age group 11-12 years with reference to giftedness and 10-12 years with reference to creativity.

Kumar Girijesh and Arora Asha (1996) conducted a comparative study of creative functioning at high school, intermediate and degree levels among female adolescents in Kumaun Region. It was found that there was a significant difference in fluency among female adolescents belonging to three groups. (ii) An insignificant difference was observed on flexibility in creative functioning among the female adolescents at the three educational levels viz. high school, intermediate and degree level.

Kapoor, Khem Chand (1996) studied creative thinking ability of high school pupils of Arunachal Pradesh in relation to their sex and academic achievement. Major findings were: (i) On seeing problem test of creativity, the male and female pupils differed significantly. The male pupils performed better than the
female pupils. Further the male and female pupils performed equally well unusual uses test of creativity (ii) It was found that tribal and non-tribal pupils had the same creative ability relating to seeing problem and unusual tests. (iii) as regards the main effect of sex and race on seeing problem test the male, female pupils and tribal/non-tribal pupils different significantly. (iv) as regards the main effect of sex and race on seeing problem test the male, female pupils and tribal/non-tribal pupils different significantly. Further unusual test showed that male, female pupils and tribal/non-tribal pupils did not differ significantly.

**Chaturvedi, Archana (1997)** attempted to study the creativity as related to personality traits and scholastic achievement of tribal students. Major findings were: (i) Tribal boys and girls did not differ significantly on creativity. High creative boys and girls as well as low creative boys and girls also had insignificant difference on total creativity. (ii) Total high creative tribal students had significant difference to total low creative students in certain personality traits. High creatives were more warm hearted, intelligent, emotionally stable, excitable, enthusiastic and self controlled that the low creative boys and girls. There were no significant differences between high and low creatives on the personality traits-assertiveness, tendermindeedness and self-sufficiency (iii) The high creative and low creative tribal boys and girls significantly differed on their scholastic achievement.

**Amin (1997)** studied personality traits of male and female student teachers and found that male and female student teachers were comparable with regard to factor ‘G’ i.e. they had equivalent super ego strength, male student teachers are more venturesome, socially bold, inhibited and spontaneous as compared to female students. Female student teachers of science and art were comparable with respect to factor ‘B’ i.e. scholastic mental capacity. Female student teaching of science were more tense, frustrated, driven wrought as compared to female student teachers of art.

**Tuli (1998)** designed a study to understand mathematical creativity and personality. It was found that (i) The high creative persons in mathematics were happy-go-lucky, impulsive, lively, enthusiastic, tender-minded, dependent, overprotected, sensitive, self-sufficient preferring their own decisions, resourceful,
controlled, socially precise, following self image, tense, frustrated driven. Overwrought, expedient and evaded rules. They felt few obligations, were venture some, socially bold, uninhibited, spontaneous, suspicious, self opinionated and hard to fool. (ii) significant differences existed in the personality profiles of high and low creative persons in mathematics. (iii) The creative person in mathematics had a unique stand of mental abilities, interests, attitudes, temperament and other variables characterizing thoughts, feelings and behaviour.

Rajagopalan (1998) attempted to study creative talent in relation to convergent and divergent thinking. Major findings were: (i) creative talent was significantly related to both convergent and divergent thinking (ii) Aesthetic creativity and scientific creative talent were significantly relates to convergent and divergent thinking whereas cognitive creative talent and talent in craft were not significantly related to either of them (iii) Divergent thinking had greater weightage for aesthetic and scientific creativity in comparison to convergent thinking (iv) In a group of pupils whose IQ was more than 120, a highly significant relationship was found among the convergent and divergent thinking and achievement scores. A significant association between higher level intelligence (IQ more than 120) and creative talent was also seen. The relationship and association was also true for the highs cores in the creativity test. (v) The important discriminating variables, discriminating higher creative groups from lower creative groups were aesthetic creativity, scientific creative talent originality and fluency.

Hota, A.K. (1998) in his book “Talent and Creativity” Part-B presented a research paper. The purpose of the study was to investigate into the difference in achievement motivation of high and low creative adolescents. It is concluded from the present study that urban high creative subjects significantly differ from urban low creative. Subjects on achievement motivation. High creative subjects have greater achievement need.

Kamra, Rajneesh and Gakhar (1999) studied the relationship of scientific creativity with intelligence. The results revealed that scientific creativity was significantly correlated with intelligence in all three types of schools in Navodaya School Students.
Devi Nirmala (2001) studied creative thinking of secondary school students in relation to parental disciplinary practices, school climate and need achievement. Main findings of the study were: (1) Boys and girls differ significantly on fluency as a factor of creative thinking. The girl had better fluency score than the boys, (2) Urban and rural students were found as not having significant difference on fluency as a factor of creative thinking, (3) Urban and rural students were found as having a significant difference on flexibility. Rural students were found to be better on flexibility, (4) Urban and rural students were found as not having a significant difference on originality, (5) Urban and rural students were found as not having a significant difference on creativity as a whole.

Patel, R.K (2002) studied the scientific creativity of undergraduate science students of Allahabad University and affiliated degree colleges. The major findings were: (i) There was no significant difference among students of University teaching departments and affiliated degree colleges with respect to their overall scientific creativity i.e. fluency, flexibility, originality and inquisitiveness (ii) There was no significant difference in overall scientific creativity as well as fluency, flexibility, originality and inquisitiveness aspect of scientific creativity among boys and girls (iii) There was no significant difference in overall scientific creativity and originally and inquisitiveness aspect of scientific creativity among boys and girls of degree colleges, respectively (investigation) the girls excelled boys in fluency and flexibility aspect of scientific creativity.

Gakhar, S.C. and Dharmindera (2003) studied intellective and non-intellective factors associated with mathematical creativity at the elementary school stage. Findings were: (i) The variable of intelligence was found to be significantly and positive correlated with mathematical creativity. Variable of mathematical achievement was also found to be significantly and positively correlated with mathematical creativity. No relationship was found between creativity and mathematical creativity due to insignificant r-value. Variable of socio-economic status was found to be positively and significantly correlated with mathematical creativity. Home environment was also found to be positively and significantly correlated with mathematical creativity. There was significant difference between
boys and girls in their mathematical creativity due to significant t-value of 0.01 level and results were in favour of boys. There significant difference in mathematical creativity of urban and rural children.

Kumarn, D. (2003) studied organizational climate and Academic Performance, of higher secondary schools in three educational districts namely: Chennai, Kanchipuram and Thiruvallur. Findings were: (i) overall organizational climate of the schools was at higher level (ii) Younger schools (upto 25 years of age) had better (position than the aged (above 50 years) schools in overall organizational climate, principal’s behaviour, teacher’s behaviour and in two dimensions namely, supportive behaviour of the principals and engaged behaviour of the teachers (iii) mixed schools had better organizational climate aspects than the unisex schools.

Gyani, T.C. and Kapoor (2004) compared the various personality factors of children in relation to gender differenced and the effect of child rearing practices on various personality factors of children. It was found that the children who are getting good child rearing practices are found to be highly participating, warm hearted, active, obedient, mildly assertive, happy, less realistic, vigorous, zestful, placed, self-assured, self disciplined and controlled while on the other hand the children who are reared poorly are found to be reserved, active, taciturn, realistic and vigorous (ii) child rearing practices influence the various personality factors of boys and girls differently. The boys were found to be emotionally less stable, active, mildly assertive, dominating, sober, restrained, forth right, natural, self assured, placed and relaxed. On the other hand the girls are found to be emotionally less stable, less active, relaxed, energetic, worrying and shy (iii) personality factors are found to be statistically significant among the students. This shows that boys who are getting poor child rearing practices are serious, careless and tense in comparison to the boys who are getting good child rearing practices. The girls who are getting poor child rearing practices are found to be submissive, serious, unwilling to act, individualistic, slightly restrained and calculating in comparison do the good child rearing practices girls.

Thabor, R. (2004) studied the variation of creative thinking abilities of student across schools of different management, across tribal, non-tribal categories,
across urban-rural categories, across schools having different organizational climates and across VIII, IX, X standards. Major findings were: (i) There exists a significant difference among students belonging to schools of different types of management in their creative thinking ability (ii) there exists significant difference among students of classes VIII, IX and X in their creative thinking ability (iii) There exists a significant difference among students belonging to schools with different organizational climates in their creative thinking ability (iv) urban secondary school students have significantly higher creative thinking ability than rural secondary school students (v) there exists significant difference among students belonging to school with different organizational climate in their attitude towards science.

**Sharma, S.K. (2004)** compared organizational climate of English and Hindi medium schools. Findings were: (i) The teachers, male as well as female of Hindi medium schools, in general, perceive disengagement, alienation, intimacy as the predominant characteristics of their school climate, whereas the English medium institutions perceive esprit, control, production-emphasis and humanized thrust as the predominant characteristics of their organizational climate (ii) only three dimensions, namely disengagement, esprit and humanized thrust have been found to exert a significant influence on academic achievement.

**Yadav, R.S. and Hussan, H. (2004)** studied the interactional effects of personality typology, locate and sex on scientific creativity of students at higher secondary level. Findings were: (i) only personality typology seems to have main effect on scientific creativity (ii) sex does not have any significant effect on scientific creativity (iii) Among the interactional effects it is seen that: (a) the interaction of the variables “Personality type” and “locale” has the greatest and most significant effect on scientific creativity (iv) interaction of sex has no significant effect on scientific creativity while that of “personality type” and “sex” is quite significant (v) interactional effect of all three variables i.e. Personality typology, locale and sex is considerably significant.

**Gakhar and Prem Lata (2005)** studied intelligence, creativity, self concept and personality characteristics of delinquents and non-delinquents. They found that out of 16 personality factors, male delinquents and non-delinquents differ on
A, B, E, G, L, Q1, Q3 and Q4 factors. Female delinquents and non-delinquents differ on A, B, G, O, Q3 and Q4 factors.

**Mishra, M. (2005)** studied the organizational climate of different types of secondary schools. It was found that: (i) Schools of Allahabad district were much nearer to the closed end of the continuum than the open end. 28.2% schools manifested ‘Paternal’ climate (ii) familiar and controlled climate schools shared similar proportions of 17.3%, while only one school (6.5%) had ‘autonomous’ climate (iii) Schools in rural areas were found more open than their counterparts in urban areas (iv) Twenty per cent rural schools had open climate but there was no school with open climate urban areas.

**Gill Arvind (2008)** studied creativity of Navodya Vidyalaya students in relation to their ego strength and locus of control. The major findings were: 1. A significant correlation was found between fluency and flexibility; 2. No significant correlation was found between fluency and originality; 3. No significant correlation was found between flexibility and originality; 4. No significant correlation was found between ego-strength and fluency; 5. No significant correlation was found between ego-strength and flexibility; 6. A significant difference between boys and girls on fluency. Boys were found to be more fluent than girls; 7. A significant difference between boys and girls on flexibility. Boys were found to be more flexible than girls; 8. A significant difference between boys and girls on originality. Boys were found to be more original than girls; 9. A significant difference between Science and Arts Students on fluency. Arts students were found to be more fluent than Science Students; 10. A significant difference between Science and Arts Students on flexibility, Arts students were found to be more flexible than Science Students; 11. No significant difference was found between Science and Arts Students on originality.

**Reddy, S.V.B. (2008)** investigation creativity of the student teachers of college of E. Conclusions were (i) The hypothesis that the male and female student teachers do not differ significantly with regard to their non verbal creativity was accepted. (ii) The hypothesis that the male and female student teachers do not differ significantly with regard to their verbal creativity was accepted (iii) The hypothesis
that the male and female student teachers do not differ significantly with regard to their creativity (verbal and non-verbal) was accepted.

Chauhdary Vineeta (2008) studied to find out the correlation between academic achievement and creativity of the creative and non-creative students. The results show that the value of the correlation coefficient for the two variables as creativity and academic achievement among creative students was found to be 0.234 and among non-creative students 0.14 respectively. A significant correlation was found between these two variables of creative students. It reveals that creative students who scored higher on creativity measures, would also score higher on academic achievement and vice versa. On the other hand no significant correlation was found between those two variables among the non-creative students. It is concluded that the relationship between creativity and academic achievement is positive and significant in case of higher achievers or creative students but negligible in case of non-creative.

R. John Lous Manohara, E. Ramganesh (2009) studied to identify the level of creative problem solving ability of XI standard students and to find out, if any, the significant differences in creative problem solving ability in terms of the background variables namely, sex, type of school, type of syllabus and locality. Conclusions were (i) The creative problem-solving ability of XI standard students in just average (ii) There exists gender difference in creative problem solving ability of the students of XI standard. Considering the results, it is implied that boys tend to excel girls in their creative problem-solving ability. It is noted that private school students are superior to the government school students in the creative problem-solving ability.

Md. Mahmood Alam (2009) conducted a study to aim to find out the extent of relationship between creativity and achievement motivation of students and academic achievement. The findings revealed a significant positive relationship between creativity and academic achievement.

Malik Mukesh (2009) studied teacher effectiveness in relation to work motivation, emotional maturity and organizational climate. Main findings were: (1) The co-efficient of correlation between organizational climate and teacher effectiveness have been found to be significant. That is to say that there exists
significant relationship between level of organizational climate and level of teacher effectiveness of sr. sec. School teachers of Haryana.(2) The co-efficient of correlation between organizational climate and work-motivation have been found to be moderate positive, as well as significant. That is to say that there exists a positive and significant relationship between level of organizational climate and level of work motivation of sr. sec. School teachers of Haryana.(3) The co-efficient of correlation between organizational climate and emotional maturity have been found to be significant. That is to say that there exists a significant relationship between level of organizational climate and level of emotional maturity of senior secondary school teachers of Haryana.

Keeping in view the studies stated above and taking cognizance of the research gap, the investigator was motivated to study the creative thinking among senior secondary school students in relation to some psychological factors and organizational climate of the schools.