REVIEW OF THE RELATED LITERATURE

Ferramdo, M. Prieto (1995) The results of the author indicates low relationships between creativity & intelligence their theory have double perspective on the one hand to establish the relationship between creativity and general intelligence : on the other hand to study the relationship which exits between creativity and multiple intelligence.

Robert J. Sternbery & Linda. A.O’Wara (1999) Creativity has often been defined as the process of bringing into being something novel and useful. Intelligence may be defined as the ability to purposively adopt to shape and select environments. In order to select or shape the environment to suit one self, one require the imagination to create a vision of what the environment should be and how this idealized environment can become a reality. On the other hand the ability to adopt to the environment- to change one self to suit the environment typically involves little or no creativity.

H. Schuler (2001) Not only individual professional advancement but also the success of whole organizations depends on their employees creativity. Although creativity and innovativeness are now a days required in a number of a job positions, no compassing instrument that measure creativity following the creative process has been establish in the field of aptitude testing.

Johanna E. Dickhut (2003) In it creativity is explored and defined in regards to novelty and appropriateness and the thought mechanisms behind creativity are investigated personality traits of psychoticism and intelligence are discussed in regards to creativity and intelligence is thought to be the main characteristics for creativity.

“Creativity is not the finding of a thing but the making something out of it after it is found”. ‘ James Russell Crowell’

Sternberg, Robert J. (2003) Sternberg divide the text into four parts: Intelligence, creativity wisdom and synthesis, the premise of the text represents for the reader discussion of wisdom, creativity and intelligence and how they are interrelated.

Dr. Stephanie L. Knight (2004) Intelligence and creativity the purpose of this is to consider theory, research, methodologies and issues related to the definition identification and assessment of intelligence and creativity. More specifically, the course will address (a) theories of
intelligence and creativity (b) Methodologies and issues related to assessment of intelligence and creativity (c) relationship between intelligence and creativity (d) framework for fostering creativity. In addition, applications of theory and research on affective teaching practices for creativity will be considered.

G. Thorsteinsson (2006) Creativity and intelligence have always been tied together, Mall X Researchers have tried to pull them apart from each other & then tried to split them into smaller factors to make the analysis easier. This kind of mathematical approach to the problem area has led to systems where the lists of concepts are given to define intelligence and creativity. This kind of definitions have caused that also the object, human & his mind is split into parts & the whole human has been forgotten

Deam Keith Simenton (2007) - Intelligence is much more narrow concept than creativity. Intelligence is purely a cognitive construct, Creativity on the other hand, I see as being much more complex, at least if you make a distinction – there are two kind of creativity that we often talk about in creativity research. There’s first of all “Little C Creativity”. Which is creativity in everyday life solving. Everyday problems. And that kind of creativity is very closely related to intelligence because intelligence include, as part of it, problems solving abilities. But when you talk about ‘big C Creativity’ you are talking about being able to generate new ideas, generate some kind of product that’s going to have some kind of impression on other people.

T D Griffiths (2008) – Creativity is a mental journey between ideas or concepts that involves either a novel route or a novel destination links between creativity and intelligence, transmitter function or need all arguably reflect global mechanisms.

Panda M. and Yadva R. (2005), studied the nature of creativity in relationship in Indian context. The study was completed in two parts. In first part 290 post graduate students randomly selected from Allahbad University. 250 students were also randomly selected to judge the ideal creative person on the basis of list of behaviors from this study they found the great relation between social and interpersonal aspect rather than cognitive, and analytical and utilitarian aspects of creativity. They found the significant difference between male and female students.

Roy. M. (2005), assessed the teachers’ attitude towards creative teaching and learning. On various aspects between male and female candidates. To study the teacher attitudes towards
creative teaching and learning, 400 teachers’ sample randomly selected from high and higher secondary school teachers including male and female. Torrance’s Creative Appreciation Training Program (CATP) developed by the investigator to collect the data. Mean, S.D., Co. efficient of correlation determined, F pretest post test and T. test was used for analysis. From this study she found that teachers of high and higher secondary schools had poor perception about creativity and hence and unfavorable attitude towards creative teaching and learning. Teachers of high and higher secondary schools demonstrated a remarkable positive shift in their attitudes towards creative teaching and learning. The teachers’ participation in the study received the creativity appreciation-training program (CATP) well and appreciated the program.

**Miss. Madhu Miha Roy, (2004),** examined the teachers’ attitude towards creative teaching and learning. 400 students sample comprised of high and higher secondary school teachers from Dimapur and Kohima districts. Torrance opinionative on creativity teaching and learning CATP was used to collect data. It was found that there was no significance difference in creative teaching and learning between male and female teacher related to high and higher secondary school. There was no significant difference in creative teaching and learning of male and female teachers of Govt. high school and higher secondary school and high and h. secondary of Private Sector. The male teacher improved better in creative teaching and learning than female teachers through CATP. The untrained teachers were found to gain more through CATP than trained teachers. The more experienced teacher gained more through CATP than less experienced teachers. Urban schooleteacher’s attitude was found positive toward teaching and learning than the teacher the teaching in semi urban or rural areas. Govt. schools teacher were found greater improvement in their attitude towards creative teaching and learning through CAPT than the private school teachers.

**Shaikh Imran, (2002),** assessed how the scientific creativity influenced by applying different media. To study the difference of scientific creativity among the students studying in English medium, Marathi medium and Urdu Medium schools. 600 students of std. VIII class were comprised from English, Urdu, and Marathi school through stratified random selection. Verbal test of scientific creativity constructed by Dr. V.P. Sharma and Dr. J. P. Shukla was used for the study. T-test was used for data analysis. Scientific creativity was found superior in students of English medium school in gentry’s society than the students learning in Marathi
medium and Urdu Medium schools situated in gentry as well as slum areas. Superior scientific creativity was found in students of Marathi medium schools in rich society than in students of Urdu medium schools in rich locality as well as slum areas.

Satish P. Pathak (2001), observed the effectiveness of creative programme for pre-service teacher at primary level and a study of its effectiveness 10 pre-service teacher trainees drawn as sample who were studying in first year (97-98) in Kothal (Dist. Kheda) D.I.E. T. 40 students (98-98) from D.I.E. T. Vadodara 46 trainees from Rajpipla and 43 trainees from Samtrampur were selected as sample to study the effectiveness of creativity programme. ANCOVA and ANOVA were the statistically techniques employed for data analysis. Effect of creativity programme on the primary school student-teachers was found significant for the creativity and its components namely fluency, flexibility, originality and elaboration respectively. There was no significant difference found of the teacher trainees of different caste categories in case of the experimental groups. There was no significant difference found in the teacher trainees of different academic stream in case of experimental groups. No interaction effect was found on the caste categories and academic stream of the primary school student-teachers of the experimental group.

L. Hanumanthainah, (2000), investigated the effectiveness of curricular creativity inputs in physics at the secondary school level. 89 Students were randomly selected (Boy and Girls) related to mental ability and socio economic background. Creativity test by Baquer Mehdi (1975), RSSB test of mental ability by Santhya Murthy (1964), SES scale By Kuppasamy, Reactions Questionnaires of lesson plan experts and Reaction Questionnaire to students constructed by the scholar were used to collect data. The girls of high mental ability have done well both on verbal and figural creativity. Low SES boys improved their figural creativity as compared to low SES girls. Low SES girls improved verbal creativity as capered to boy’s students.

Bansal, Indu and Agarwal Shikha, (1997), examined the impact of Computer to enhancement of creativity among young children. For this, 24 students have been chosen as sample from both rural and urban areas primary school non-verbal, test of creative thinking of medical culture fair intelligence, of cattle were used to collect the data for the study. It was found
that creative ability could be improved. It was found that at the initial stage no significant
difference existed in creative ability of children of rural and urban community.

Singh, H. Ibotombi (1996), in his research works, he examined the creative teaching
skills for secondary school teacher in Nagaland. The sample of study comprised 12 experts and
60 teacher educator selected from six teachers training colleges of North Eastern states. Random
Sampling technique was used. A questionnaire and rating scale were use to collect data. It was
found that out of 31 skills, 10 skills were identified as creative teaching skills for secondary
school teachers. All these skills come under the independensable and very important categories
to develop creative skills among secondary schools teachers. To enhance the creative ability in
student’s effective curriculum is a basic need. If school has a quality-based and innovative
curriculum, defiantly it will be fruitful for students.

Fathima Jabeen, Zaheda (1995), presented his study with reference to age and gender.
The sample of study comprised 200 students (100 boys at 100 girls) of age group 7-8, 8-9, 9-10,
10-11 and 11-12 years from school of Madras (Chennai) city. They all randomly selected.
Wechsler’s intelligence scale for children and Wallah and Kogan’s battery of creativity
Instrument by Paramesh were taken to collect the data. There was a significant difference found
between 7-8, 8-9, 9-10, 10-11 year old children with regard to giftedness and creativity. There
was significant difference between boys and girls of age group 11-12 years with reference to
creativity. How can teacher help the students to enhance creative potential among students?

Singhal, Sushile and Liegise, Buno (1994), studied the levels of creative thinking
among class X students in Govt. and Pvt. Schools in rural and urban areas. For this 476 students
studying in class X from rural and urban schools comprised as a sample. They were selected
randomly. Verbal and Non verbal test by Mehdi were used to collect data. Analysis was done
with ANOVA and correlation. It was found that elaboration and originality factor of either the
verbal and non verbal creative thinking did not vary of rural and govt. schools’ students. There
was a significant difference among schools on verbal flexibility and verbal fluency. There was
the significant difference from each other an elaboration and originality, fluency and flexibility
factors of both verbal and non-verbal creative thinking. The highest correlations were found
between verbal fluency and verbal flexibility and verbal elaboration and verbal originality. All
aspects of verbal and non-verbal creative thinking correlated significantly with each other.
Lalita, Y.R. (1994), assessed creativity in relation to teaching competence of B.Ed Teacher trainees studying in the colleges of Education of Bangalore University was given. The sample of the study comprised 1130 tribal’s students of class XII. The tools used to collect the data included verbal test of creative thinking of Baqur Mehdi, High school personality Questionnaire by S.D. Kapoor, S.S.

The relevance of variables was tested by F-ratio, Chi-square and critical ratio. There were no significant difference between high and low creative on the personality traits-assertiveness, consciousness, adventurousness tender mindedness and self-sufficiency.

Margaret Boden 31 May (2006), in the workshop (2) ‘Evolving view of creativity’ proposed that creativity is the ability to come up with ideas that are new, surprising and valuable where ‘valuable’ means different things according to the domain.

Bob Jeffrey and Anna Craft (2004), published a report on ‘Teaching creatively and Teaching for creativity: distinctions and relationships’ a research conducted by the National Advisory Committee on Creative and Cultural Education (NACCCE, 1999). The data was collected from an early years schools, known for its creative approach in U.K. Data collection was through qualitative methods, consisting chiefly of interviews with teachers, support workers, parents, children and visitors. From the research outline they found that the relationship between teaching creatively and teaching for creativity is an integral one. The former is inherent in the latter and the former after leads directly to the latter.

Sam Ran Tongpaeng, (2002), investigated the impact of strategy to develop creative ability among university students. 240 Second year under graduate students were selected randomly from the faculty of nursing, Naree Suan University, Pitsanulok Provence, Thailand. Standardized tools were used for the assessment of intelligence, risk taking, Tolerance of ambiguity, self confidence independence and creativity, Correlation and ANCOVA were used for data Analysis. From this study, It was found that developed instructional material enhance, fluency, flexibility, originality and creativity amongst students. The DIM was found to be effective in enhancing curiosity amongst students. Students were found to have favorable reaction towards DIM. The treatment was found to enhance fluency significantly more in comparison to conventional method. There was found no difference between male and female in
relation to fluency. Originality was found to be independent of interaction between treatment and sex. Creativity was found to be independent of interaction between treatment and sex. Media is another instrument to develop creativity among students. Brophy et. al (2001), completed his research to examine the relationship between inclination for divergent and convergent thought and creative problem solving (CPS) performance. The research was conducted for 300 university students. Result shows that student’s preferences were associated with performance. Task completion required frequent convergent thought as well as divergent thought.

Every creative work need creative process properly he highlighted this topic how the creative process works in present, past and future.

**Lubart et. al (2001)**, studied the models of the creative process: present, past and future. They discussed 20th century models of creative process, including the structure of intellect model of J.P.Guilford. The basic 4-stage model of creative process, comprising preparation, incubation, illumination and verification has been prominent since the end of 19th century and many researchers have relied on it. However, research suggests that this model may need to be revised or replaced.

**Maria et al (1998)**, attempted this study to clarify the relationship among intelligence, creativity and peer-perception. 300 students were selected for the test of intelligence, creativity, and sociometric choices. Result shows that children form middle high socio economic status had higher scores on intelligence creativity tests and those students who were viewed as creative by their peer were the most popular in the groups. Girls of higher socio-economic status viewed their creative peers as the most misbehaving.

**Blisset et al (1997)**, examined the relationship between creativity and interpersonal problem solving skills in adults. 74 old under graduates students were selected as a sample to measures of interpersonal problem solving, creative performance and creative style test used included the means ends problem solving, the Torrance test of creative thinking and the problem solving inventory. Students received interpersonal problem solving training and creative training problem specifically affected performance only on related measure of performance. A combination of program affected both abilities.
Guilar et. al (1996), gave his considerable work to study the correlation between the personality and creativity. This study involving 400 students, examined the issue by mean of factor analysis and ANOVA. Different measures of creative behavior and cognitive abilities are correlated with personal characteristics, such as psychoticism, extraversion and other measure of personality. The result is consistent with the idea that different forms of creative behavior are related to distinct characteristics of personality.

Mellou, Eleni (1996), discussed how creative school environment, creative thinking programs and creative teachers could influence children’s creative behavior. He found Creativity can be nurtured in Young children and there is need for a broader and comprehensive pedagogical and curricular framework for creativity specialists or facilitators to apply their work. A suitable environment and appropriate teaching may encourage the development of children’s creativity. Interaction with the creative environment seems to be the most powerful possibility of nurturing creative individuals.

Dockal, Vladimir (1995), investigated whether or not creativity is independent of heredity? Research also discusses creativity, which unlike that of intelligence measured by classic tests can be enhanced to a large extent by the environment. The author suggested that the mechanism of the environment and heredity interaction appears to be the same in the development of both kinds of abilities. The observed data document only a different approach of contemporary civilization toward them, while the reproductive abilities are maximally supported by education, in developing creativity there is a great room for accidental influence as well as influence of stimulating programs.

Sandra Walker Russ (1993) – listed the following characteristics based her review of the literature, as ideal qualities of a creativity fostering environment.

1. Children should have a choice in how to perform a task.
2. Reward should be uses in such a way that it leads to positive effect and higher enjoyment of the task.
3. Play and fantasy should be encouraged.

Odena (2001) - The construction of creativity by appropriate environment. It explores methodological issues regarding the eliciting of the views of teachers regarding creativity, with
particular reference to the use of videotaped extracts of lessons during in-depth construction of creativity.

**W.N.U. (2003)** - Chinese students outperform American students in many international competitions in mathematics and natural sciences. Three different factors are posited to be responsible for the discrepancy in rated creativity between Chinese and American students namely social values, school practices & educational’ testing system. Although there is general tendency for school educators in both China and United States to overemphasize analytical skills at the expense of the development of creative abilities in general, the tendency for the Chinese to do so is stronger than it is for the American.

**Wellington city council (2005)** An island bay school has quietly been building and arts-friendly environment where creativity flourishes and students thrive. The educators, students and parents believe that the artistic process is a vital tool in the growth of the individual, contributing to who we are, the ways we learn & the understanding we have of the world.

**Bernard Spodek (2006)** The school environment is defined by educators. One way to examine this kind of influence is to study implicit theories. These are the assumption and expectations held by people. They are implicit in the sense that they may not be articulated or tested. In fact it may be easiest to explain implicit theories by contrasting them with explicit theories. These are held by scientists and researchers. They are explicit in the sense that they are articulated and tested. Scientists may have the theory of creativity, but they must explore it and share it with colleagues and to be scientific, they must extract Hypotheses, make these known, and test them.

**Supreme Education Council (2006)** Experts agree that creativity and critical thinking are hallmark of a world-class education system & necessary for the economic competitiveness of all countries. Independent school, which are one of the hallmarks of education in new era realize that creativity is not a luxury. They recognize that creativity is a resource that reside in all students- but to varying degrees. Independent schools see the need to graduate a generation of students that learn to think more creatively & critically and to develop skills, abilities and values that are critical for success in everyday life.

1. Stimulate and keep a creative group atmosphere, which allows to speak, think and work free of stress and anxiety.
2. Avoid group pressure and envy of competition but allow and support a socio-co-operative climate.
3. Try to avoid & present negative reactions or sanctions by classmates.
4. Demonstrate and appreciate humour.
5. Stimulate and support free playing and manipulating of objects and ideas.

**Emeritus Tan Sri Date (2009)** It has been said that next to parenting a child, educating our young must be the most important job in the world. The word heartbeat is used because if the heart stops beating, the system will collapse, and that underscore the pivotal importance of creativity in the development of a nation. Educationists are the most important people in the country. Because they provide a suitable environment for the child and make their thought creative.

**Rich Gilman (2009)** He viewed that the greater chance of adopting maladaptive international beliefs & engaging in performance-avoidant behaviors for instance, viewing mistakes an indication of a lack of ability, experience greater levels of anxiety, increased mentality and challenge avoidance and in some cases, engaged in self-sabotaging behaviors, such as cheating or not seeking help when needed. Such beliefs and behaviors, if they are manifest in performance-audience goals, would not seem to be conducive to the development and expression of student creativity.

**V. Ramachandaran (2009)** It is imperative to create an environment that foster creativity and innovation among school students, Teachers play a vital role in nurturing creativity in the young minds, which would enable students to emerge successful in their career.