

A Study on Quality Assurance in Teacher Education Institutes in Patna

Naghma Ahmadi* and Dr. Vandana Bhatnagar#

*Research Scholar, Sri Satya Sai University of Technology & Medical Sciences, Sehore

Dean of Education, Sri Satya Sai University of Technology & Medical Sciences, Sehore

Abstract - The present study aims to investigate various educational reforms taken by Government of Bihar and its implications in School Education in and around Patna district on various parameters like students' creativity and school overall performance. The research objectives are to assess the performance of School Education post educational reforms steps taken by Government of Bihar, to assess the quality level of secondary school in Bihar in terms of student's creativity and teacher's orientation towards nurturing creativity and to assess the ambience of secondary schools in Bihar and administrator role in facilitating high-performance schools.

The present study aims to investigate various educational reforms taken by Government of Bihar and its implications in School Education in 3 districts of Bihar, namely Patna, Vaishali and Muzaffarpur on various parameters like students' creativity and school overall performance or ambience. The study consisted of a representative sample of 624 teachers taken from the target population. The main findings are as follows:

- 1) The attitude of secondary school teachers towards nurturing creativity is positive. They have good knowledge about creativity, barriers affecting creativity, enhancing creativity among students, misconceptions related to creativity and indicators of creativity.
- 2) According to secondary school teachers, creativity is mostly affected by autonomy or freedom at the work place then the parenting style of offspring.
- 3) The most prevailing misconception among teachers about creativity is that creativity is reserved for the people of certain caste and race and the most common indicator of creativity is diversity of ideas in creative people.
- 4) The results also reveal that the quality level of school education is better post Government of Bihar steps taken on educational reforms.
- 5) School emerges as a significant predictor and explains around 20% of variance in attitude towards nurturing creativity of secondary school teachers.

Keywords: educational reforms, school education, creativity, nurturing creativity and performance.

I. INTRODUCTION

Education is the most prime and powerful instrument to the development and the improvement of mankind. In the general sense, the term educationist is used as a form of learning, in which the knowledge, skills, values, beliefs,

and habits are transformed from one generation to next (Ahmad & Garg, 2007).

According to the Report of Education Commission of 1964-66, "The destiny of India is now being shaped in her classrooms" (Aggarwal, 1966). In this context and in facing up the challenges of new century, a teacher plays a role of a perceiver who recognizes the potential of the individuals and builds up young generation to be ready and capable for rapid global development in different areas. A teacher along with the expertise of his subject area should be able to understand the needs and qualities of students and should nurture them accordingly. The continuous researches on education have proved that an effective teacher is the single most important factor of student learning (Darling-Hammond, 2000; Marzano, 2007). In the report of UNESCO on World Education, it was pointed out that "Good education requires good teacher" (UNESCO's World Education Report 1995).

Need of Teacher Education

A teacher functions as a mentor and guide for the learners in terms of acquiring knowledge and life skills within the broader framework of the school education system. A teacher addresses the relation between the needs and demands arising in the school context where he/she observes and records the progress of the class to ensure a healthy culture of learning. The National Curriculum Framework (2005) emphasize that academic excellence, subject knowledge, repertoire of pedagogical skills, commitment level towards profession, sensitivity, motivation and attitude of teachers influence the achievement and learning of pupils. The teacher must be equipped not only to teach but to understand the students and their needs. It stated that a teacher should be a facilitator in children's learning and developing his/her knowledge base. National Council for Teacher Education (2009) pointed out the role, philosophy and purpose of a teacher as follows:

- i. Teacher must deal with his/her students in affectionate and caring manner.
- ii. Teacher should be sensitive towards the problems of learners and should be committed to justice and social reconstruction.

- iii. Teachers must encourage learners to construct their knowledge through experiential learning instead of rote methods.
- iv. Teacher must adopt learner centered methods in teaching-learning process as play-way method, project, discussion, dialogue, observation, visits and integrated academic learning with productive work.
- v. Teachers must contribute in framing of curriculum, syllabus, and textbooks and to critically examine them.
- vi. Teachers should understand the psycho-social attributes, needs of learners, their special abilities, characteristics and motivation level.
- vii. Teachers should be liberal, humanistic and responsive to the demands of learners and the present context.

II. PREVIOUS WORK

Familiarity with the related literature develops an insight into the problem, helps the researchers to discover what is already known, what others have attempted to find out and what problems remain to be solved. It guards against the possible limitations and minimizes the chances of duplication or repetitions. Thus, it is essential for a researcher to know what sources are available, what sources to use, and where and how to find them thereby saving many hours of aimless activities.

The survey reveals what is called the “research gap” or the areas, which have not been studied or which had been studied in other cultures but not one’s own. One may even like to study those variables that had been studied from one point of view or angle but need to be studied from a different angle or perspective. The most crucial purpose of review of literature is the location of the major variables of the study and their existing relationships.

The present chapter is devoted to the review of research studies that are thought to have some bearing on the problem by the researcher. In order to develop deep in sight and to evaluate the methodological practices, the researcher made a survey of the available literature and reviewed the research studies related to creativity and its various dimensions. A thorough and prudent study of various books, journals, research papers and educational reviews has resulted in the accumulation of certain amount of literature regarding the topic under consideration. The present researcher made an extensive search of all relevant studies in educational literature and selected those that were seemed to be significantly related to the topic under investigation.

On the basis of content, all the studies have been classified into three broad categories:

1. Studies related to nurturing creativity
2. Studies related to School Climate in relation to nurturing creativity
3. Studies related to creativity in relation to various variables

Studies Related to Nurturing of Creativity

The present researcher collected a number of studies regarding the nurturance of creativity. However, a selected few and the most recent have been described below:

True (1966) attempted to find out the effect of teaching of general semantics on two factors of creativity i.e. ideational fluency and spontaneous flexibility. The sample of the research consisting of 360 students of VI grade was selected by using random sample technique. In the study, two tests (Product Improvement Test & Unusual Uses Test) were applied to measure fluency and spontaneous flexibility of students. The findings of the study revealed that there was significant difference between the performance of both groups on ideational fluency ($t = 17.6^{**}$, $t = 16.8^{**}$) and on spontaneous flexibility ($t = 12^{**}$, $t = 26.7^{**}$). Experimental group performed better on both the aspects of creativity than control group. The researcher concluded that the teaching of general semantics increases both ideational fluency and spontaneous flexibility.

Gupta (1988) focused on the creative development of secondary school children in relation to age, gender and urban and rural background and found that boys and girls develop rapidly in creativity from the age of 11 (grade VI) to the age of 13 (in the case of boys) and 14 (in case of girls- grade VIII) but later found a sharp decline up to the age of 15 years (grade X). In general, creativity has a tendency to rise from the age of 11 (grade VI) and continue to do so up to grades VIII and IX or age 13/14. After this age there appears a sharp decline. Girls showed excellence as compared to boys in creative development between the age 13-15 years both in rural and urban areas. Urban students were found to be superior to rural students in creative development. The researcher arrived at the conclusion that creative development in secondary school students is affected by age, gender and location.

Tripathi & Shukla (1990) tried to assess the effectiveness of instructional material for promoting creativity. He found that there were certain dimensions of creativity (fluency & flexibility) that could be developed through training programme but the training programme did not show any significant impact in terms of originality scores of creativity.

Jawaharlal (1990) aimed at finding out whether the structured creative teaching programme taught in

brainstorming sessions will be useful for fostering creativity among primary school children or not. He found that creativity could be enhanced in primary school children when they were taught through brainstorming sessions. He also found no gender difference in the development of various aspects of creativity such as fluency, flexibility and originality. The researcher stated that the brainstorming technique provides a helping hand in enhancing creativity among children.

Gakhar (1991) investigated the interaction between instructional models and creative training. The findings of the study revealed that all the instructional models (Ausubel's Model (1963), Bruner's Model (1965), Gange Model and Traditional Teaching) under investigation yielded significantly different achievement scores. Further Ausubel's model produced better results than other three models. The interaction between instructional models and creativity training was found significant. The researcher concluded that if instructional models are followed by creative training, the results may be more convincing.

Clapham (1997) tried to discover the role of ideational skills training in fostering creativity. The results of the study revealed that the skill training is helpful in developing the appropriate thinking skills, positive attitude towards creativity and creative performance. The researchers arrived at the conclusion that ideational skill training is helpful in reducing anxiety, motivates learners to be creative and also to solve the problematic situations.

Cropley & Cropley (2000) tried to assess the impact of teaching of creativity and counseling on the innovative ideas of engineering undergraduates in theoretical and practical aspects by taking a sample of 85 undergraduates. The sample was divided into three groups (i) 27 students who received lectures on creativity (ii) 37 students who received lectures and also counseling after performing on a creativity test (iii) 21 students in control group. The results revealed that teaching and counseling were associated with behavioral change in both practical and theoretical exercises. The students who got counseling and lecture both were more innovative in comparison to control group. The researcher arrived at the conclusion that teaching and counseling together is helpful in fostering innovative ideas.

Roy (2004) conducted an experimental research to assess "the effect of creativity appreciation training programme (CATP) on the teacher's attitude towards creative teaching and learning" by taking a sample of 400 teachers. The researcher found that:

(i) Male teachers of both levels (high and higher secondary) had positive attitude towards creative teaching and learning than female teachers.

(ii) Teachers from private schools had better attitude towards creative teaching and learning in comparison to government school teachers.

(iii) Teachers having experience less than ten years expressed more positive attitude toward creative teaching and learning than more experienced teachers.

(iv) Teachers belonging to government schools showed more positive change in their attitude towards creative teaching and learning than private school teachers after creative appreciation training program (CATP) while gender did not cause any change in them. The researcher concluded that creative appreciation training program facilitates the development of positive attitude of teachers towards creative teaching and learning.

Park et al. (2006) attempted to study the "changes in Korean science teachers" creativity after participating in overseas professional development program. They found that science teachers had growing awareness about creativity. It was also found that creativity could be enhanced by science teaching as science teaching has much wider range of activities and experiments. The researchers found that the professional development program contributes significantly in making the teachers more aware about creativity and its uses in teaching practice.

Hosseinee (2008) investigated the impact of creativity teaching program on teacher's knowledge, attitude and skill on a sample of 120 teachers or instructors (60 instructors in a test group and 60 instructors in a control group) of various districts of Tehran. The results showed that there was significant difference between the two groups (experimental group and control group), which confirmed the positive impact of the training period on teacher's knowledge, attitude and technical skill.

O'Farrell (2009) carried out a study to know the perspective of arts teachers, students and administrators about the nature of creativity and strategies used in the school to enhance creative achievement. The results indicated that students and teachers had different view regarding the nature of creativity. Students perceived creativity as an innate quality, while teachers viewed it as a skill, which could be nurtured and developed. Students regarded the role of teachers as motivator in fostering creativity while teachers believed that they played a role of guide to explore the creative potential of students and thought that feedback in assessment process could help to develop creativity of students. However, according to the researcher, creativity is an acquired ability and can be enhanced by the guidance of teachers.

Nilson et al. (2013) studied the perception of teachers and mothers regarding the use of creative arts for cultivating critical thinking among children. The findings of the study

revealed that participation in creative art classes may stimulate the imagination power and creativity of students. It also helps in developing awareness about self, others and the environment. Teachers believed that students required more time for free play to develop their imagination. Similarly, mothers perceived that limited time and theoretical and tedious curriculum were the main constraints in developing children creative abilities. The researcher arrived at the conclusion that active participation in creative arts programs may nurture imagination power of children.

Modi (2013) investigated the effect of „creative appreciation training program on teacher’s attitudes towards creative teaching and learning. The study was carried out on the sample of 125 high and higher secondary school teachers from Ahmedabad districts. The findings revealed that there was significant effect of creative appreciation training program (CATP) on the teachers’ attitudes towards creative teaching and learning. Creative appreciation training program also affected positively the perception of teachers regarding creative teaching and learning with reference to gender(male/female), location (rural/urban) and teaching experience (less than 10 years/ more than 10 years). The researcher found that participation in training program causes positive change in the perception of teachers regarding creative teaching and learning.

Okoli et al. (2014) assessed the awareness of teachers regarding the strategies for enhancing creativity on a sample of 208 teachers belonging to science, technology and mathematics streams. The results revealed that science, technology and mathematics teachers were aware of the strategies of promoting creativity and there was no difference between male and female teachers in their awareness level. Regarding the application of these strategies, the researchers noted that teachers were not using them regularly in teaching process to cultivate creativity of students. The researcher found teachers are aware of the teaching techniques and methods that enhance creativity among students but they do not apply them in practice.

A perusal of the above given studies reveals that a number of researchers (True, 1966;Tripathi & Shukla, 1990; Jawahar, 1990; Gakhar, 1991; Clapham, 1997; Cropley & Cropley, 2000; Roy, 2004; Park et al., 2006; Hosseinee, 2008; Modi, 2013; Nilson et al., 2013) had tried to know the effect of training programs, creative art programmes and creative techniques on the development of creativity. Among them, some of these researchers (Clapham, 1997; Cropley & Cropley, 2000; Roy, 2004; Park et al., 2006; Hosseinee, 2008; Modi, 2013; Nilson et al., 2013) found that training programs affect positively the enhancement of creativity while True (1966) and Jawahar,

(1990) found that enhancing techniques of creativity like semantics and brainstorming are helpful in promoting creativity. Gakhar (1991) revealed that training with instructional models’ nurtures creativity more effectively while Tripathi & Shukla (1990) stated that training program can enhance only certain dimensions of creativity i.e. fluency and flexibility but it does not influence the most important dimension “originality of creativity”. Regarding demographic variables, Gupta (1988) and Roy (2004) carried out a study with reference to gender difference, place of living and types of school and found all these variables significantly affecting nurturance of creativity. It was revealed that female students and students belonging to urban location possess more creativity and grow rapidly than their counterparts.

Studies Related to School Climate in Relation to Nurturing Creativity Rogers (1954)

In coherence with this study, Getzels & Jackson (1962) Domino, (1979), Sloane (1985), Passi (1989) also stated that the atmosphere of home, school and community and also the culture to which the children belong had a considerable influence on the development of creativity. Hallman (1967) conducted a study to identify the inhibitors to creativity and its expression in schools. It was found that teacher-chosen goals and activities, standardized routines and tests, inflexible curriculum, authoritarian attitude and environment, threats of failure, over emphasis on grades or rewards were the prominent blocks for creative development. Bowes (1986) tried to explore the climate that can be supportive to enhance creativity and found that a climate free from “fear of failure” and “loss of self-esteem” played a significant role in promoting creativity.

Agarwal (1988) investigated types of school and corresponding factors as the predictors of creativity at secondary level. The sample consisted of 480 male science students of class XI and 275 teachers from four types of schools. The findings of the study revealed that students of four types of schools were different with respect to creativity, verbal and non-verbal creativity and their components. Significant difference was found between high and low creatives with respect to their learning environment. It was also found that socio-economic status influences creativity and its components to a moderate degree only. The researcher found types of school and its climate as an influencing factor for creativity and its development.

Chakraborty (1992) tried to find out the attempts and activities, which were conducted in Indian schools to encourage creativity. The researcher found that no attempt was carried out by the teachers to cultivate the creative abilities of children. The researcher arrived at the conclusion that the reason behind the absence of activities

of promoting creative thinking may be attributed to the poor knowledge of teachers about the nature and personality characteristics of creative talents and strategies for its development.

Hill (1992) conducted a study to examine the environmental barriers in creative expression. The findings of the study revealed that lack of freedom, inappropriate reward system and insufficient resources and time were the main constraints that had negative influence on creative expression. It was reported that school environmental factors that can stimulate creative expression includes freedom, sufficient resources and time, enthusiastic management, a non-threatening and collaborative atmosphere, recognition, reward and challenges.

Sutherland (1994) assessed teachers' perceptions about the characteristics of a good School Climate on a sample of 150 teachers. Majority of teachers agreed that the essentials of favourable School Climate were mutual respect, trust, nurturing and caring attitude, high morale and academic freedom for development. 84% of the teachers agreed that they knew a lot about the school and in which they were working and 82% of the teachers liked the school in which they were working. The study concluded that teachers have an attitudinal receptiveness for improving the organization and therefore school administrators should make efforts to reform school environment.

Fleith (2000) examined the perceptions of teachers, students and experts about characteristics that stimulate or inhibit creativity in the classroom environment. The researcher found that teachers, students and experts have different ideas about what enhances or inhibits creativity in the classroom, but all three groups acknowledged that the classroom environment influences the creativity. The results indicated that the school and classroom environment that enhances creativity has positive teacher attitudes, strategies (brainstorming) and activities. It was also revealed that teachers defined creativity in terms of process, person and environment but according to students, definition of creativity included product and person. The attributes of creative student were found to be "perseverance, task commitment, language, curiosity and different approach" in the study. The creativity experts believed that teachers should encourage students' responses, humour, question asking and risk-taking and the classroom environment should be "psychologically safe" to increase creativity. The researcher arrived at the conclusion that classroom environment affects creativity and its development and creative individuals have specific qualities than others.

Alotaibi (2006) tried to find out the atmosphere of school, its barriers and its role on teacher's performance at general

educational stage. A sample consisting of 266 teachers who were working in governmental schools in Riyadh city was examined for the purpose. The researcher found that the most important dimensions of School Climate were "carefulness of administration to apply rules and regulations" and "settlement of conflicts among teachers". The teachers were also agreed that school atmosphere had an effective role in all educational and practical aspects. The study revealed that administration inflexibility in applying regulations, less attention towards school activities, lack of necessary equipment and extra work load on teachers as main barriers of suitable atmosphere.

Gunbayi (2007) examined the factors contributing to School Climate from the point of view of teachers teaching Social Science, Natural Science, Art, Music and Physical Education. As a result of the analysis, all teachers reported open School Climate is related to the factors of term commitment, organizational clarity and standards, intimacy and support, autonomy and member conflict. Additionally, the teachers teaching art, music and physical education stated that their school had higher open School Climate than others.

Adams (2013) conducted a case study entitled „using lesson study to understand the factors that affect creative teaching and critical thinking in the elementary classroom on a sample of 18 teachers of IV, V, VI grades. The findings of the study revealed that there was no significant difference between the teachers of experimental and control groups in employing methods, strategies for nurturing creativity and critical thinking. According to teachers of both groups (control and experimental), the climate, which is full of collaboration, trust and valuing creativity, might be helpful in promoting creativity. It was also suggested from the study that teaching of creative and critical thinking is mainly affected by four factors i.e. use of research proven strategies, teacher's experience of creativity, participation in creativity developmental programs and activities and the atmosphere of school.

To sum up the above mentioned studies pertaining to School Climate in relation to nurturing creativity, it was found that a number of researches (Roger, 1954; , Getzels & Jackson, 1962; Domino, 1979; Sloane, 1985; Bowes, 1986; Agarwal, 1988 and Passi, 1989) have been conducted to investigate the impact of School Climate on the development of creativity. Among them some of the researchers (Roger, 1954; Getzels & Jackson, 1962; Domino, 1979; Sloane, 1985; Agarwal, 1988; Passi, 1989 and Fleith, 2000) concluded that School Climate influences the creative development considerably. Bowes (1986) revealed that climate full of support and free from fear and psychologically safe climate promotes creativity (Fleith, 2000).

Some researches (Sutherland, 1994; Alotaibi, 2006; Gunbayi, 2007) have been conducted to observe the qualities of good School Climate and the findings revealed that mutual respect, trust, high morale, academic freedom (Sutherland, 1994) carefulness (Sutherland, 1994, Alotaibi, 2006), settlement of conflicts among teachers (Alotaibi, 2006), organizational clarity and standards, commitment, intimacy, support and safety (Gunbayi, 2007) are main essentials of good and open School Climate.

Few researchers (Hallman, 1967; Bowes, 1986; Hill, 1992; Alotaibi, 2006) attempted to know the inhibitors of creativity in relation to School Climate and its expression and development. It was found that inflexible curriculum, authoritarian environment and inappropriate reward system are the main barriers of creativity (Hallman, 1967; Hill, 1992). Along with these factors, in the study of Hill (1992) lack of necessary equipment and in the study of Alotaibi (2006) extra work load on teachers, less attention towards school activities have also been found as main barriers for enhancing of creativity.

Some researchers (Chakraborty, 1992; Adams, 2013) studied nurturing creativity in relation to School Climate. Chakraborty (1992) found that teachers do not make any attempt to promote creativity in classroom due to the ignorance about strategies and methods of enhancing creativity. Adams (2013) found that training improves positively the way of teachers of employing various techniques and methods in classroom for nurturing creative and critical thinking.

Studies Related to Creativity in Relation to Various Variables

Bhandarkar (1989) conducted an experimental study to find out the intellectual and creative suppression stagnation being faced by meritorious students in the present curriculum. The sample consisted of 140 students of standards VIII and IX from fifteen Secondary schools of Chandrapur district. The major findings of the study indicated that there was very little difference in the highest and lowest mean of suppression expressed by the students. The high-level group showed more suppression than low-level group. School was found to be the most suppressing factor and the environment and literature were the factors causing least suppression. It was found that "family" was also a suppressing factor than a „friend“ factor. The researcher found that both school and family are the causes of suppressing the creative abilities of individuals.

Rehm (1989) conducted a study to know the factors, which can affect creativity. The results of the study revealed that exchange of ideas with others, support and encouragement and tasks in which divergent thinking was required were the main things that could promote

creativity. It was also found that fear, lack of time, stereotype thinking were the main causes that could suppress creativity. The study concluded that sharing of ideas, motivation and innovative tasks may be helpful in promoting creativity while conservative thinking and fear to take risk may hinder the development of creative abilities.

Dhalla (1990) identified the characteristics of creative children in the area of Psychology and Education and some commonality among creative children by taking sample of class VII and VIII students. The findings revealed that creative individuals had high intellectual capacity, fluency but did not possess good reading habits. They were quick, attentive and disciplined. They were confident about their future aspirations and had high positive self-concept and very optimistic attitude about life. Usually, they did not have leadership qualities but possessed some special talents.

Biswas and Biswas (1991) attempted to assess the difference between creative and non-creative rural adolescents in their reactions to frustration, directions of aggression and types of reaction and group conformity ratings on a sample of 170 students (101 boys and 69 girls). The results of the study showed that both the groups were different significantly only in extraggression and group conformity rating. The creative group was found to be less extraggressive than the non-creative group, while the former group had a higher group conformity rating than the latter. The creatives were found to be more adjusted to the normal group. The researcher arrived at the conclusion that creative individuals have some specific talents such as patience and adjustment power etc.

Afshan (1991) examined the vocational interests and creativity among gifted rural and urban girls by taking a sample of 835 girl students of grade XI. The major findings revealed that rural and urban gifted girls did not show any characteristic difference in parental education or occupation. Rural gifted girls in comparison to urban gifted girls were found to be higher on creativity but this difference was not statistically significant. No significant difference was found between these two group on the components of creativity viz. fluency, flexibility and originality. The vocational interests of gifted rural and urban girls were also similar. The researcher arrived at the conclusion that location does not cause any difference in creativeness and vocational interests of gifted girls.

Gautam (1992) tried to explore the developmental pattern of creative thinking and leadership behaviour among Navodaya Vidyalaya students with reference to gender difference and socio-economic status. The findings revealed that development pattern of creative thinking among the students were different in the case of dimensional components of fluency and flexibility but not

in the case of the originality component of creative thinking. Gender did not affect the developmental pattern of leadership, 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. Socio economic status of students did not have any effect on creativity but the students belonging to low socio-economic status exhibited better leadership qualities as compared to their counterparts of high SES. The researcher concluded that gender does not affect the leadership qualities but affects the creative abilities while SES does not influence creativeness but affects the leadership qualities of students.

Chan and Chan (1999) investigated the perception of Hong Kong teachers (N = 204) from thirty-eight different schools about the traits of creative and uncreative students. The findings revealed that the most common creative characteristics included: "always questioning," "imaginative," "quick in responding," "active" and "high intellectual ability" and the most common uncreative characteristics included: "conventional," "timid," "lack of confidence," "conforming," and "uninitiative". The study revealed that level of teaching does not influence the perception of teachers about creative traits but gender affects the choice of traits related to creative individuals.

Scott (1999) compared the perception of college undergraduates with teacher's perception regarding creative student behavior. She found a statistically significant difference between teacher perception and college student perception of creative student behavior. Both of them rated boys as more disruptive than girls ($F = 59.54, p < 0.01$). The elementary school teachers were more likely to associate disruptiveness with creativity (post hoc $t = 4.17, p < 0.001$). More specifically, teachers rated highly creative students as more disruptive than average creative students. The researcher concluded that undergraduate students and teachers agreed that creative boys are more troublesome in comparison to girls and girls are more creative than boys.

Aljughaiman and Reynolds (2005) tried to assess the conception of teachers about creativity and creative students. The results indicated that teachers possessed positive attitude and perception towards creativity. More than 50% of the teachers stated that creativity could be taught to anyone and 81% of the teachers assumed that creativity could be developed in regular classroom. 75% of the teachers were in favour to integrate various strategies and methods in regular curriculum to promote creativity and 78% of the teachers stated that developing creativity was essential for enhancing student's academic learning in schools but only 61 % teachers believed that they must possess knowledge about creativity and only 33% teachers agreed on the point that development of

creativity was the responsibility of teachers. The study also revealed that thinking differently (92%) imagination (64%), risk taker (61%), artistic (58%) and rich vocabulary (50%) were top five characteristics of creative students. It was reported that teachers show their positive attitude towards creativity and support for creativity enrichment but there is lack of involvement in practice.

Gaspar (2005) investigated the relationship between teachers' creative attitudes and students' creative attitudes and found that there was significant positive relationship between both of the variables. Teacher's creative attitude significantly influenced the creative attitudes of students and also had impact on their creative personality. The researcher found teacher's creative attitude as a determining factor for child's creativity and creative personality.

Lee and Seo (2006) conducted a study to examine the understanding of creativity among Korean teachers of special school (gifted students). The data was collected on a sample of sixty teachers by employing an open-ended questionnaire about their understanding of creativity. The findings of the study indicated that the science teachers had a thorough knowledge of the cognitive component of creativity and possessed a strong association of creativity with intellectual ability. However, having more acquaintance with cognitive component they showed less awareness of the personal and environmental components of creativity.

Brandau, et al. (2007) compared the creativity test scores of Austrian children (N = 71) with various behavior rating scales completed by their classroom teachers. The researchers found a positive relationship between fluency scores and impulsive/hyperactive and disruptive behavior. They also found a correlation between flexibility scores and more attentive and less introverted behavior. The researcher found that various components of creativity (fluency and flexibility) are associated with behavior of creative students. However, gender and age may predict creativity scores.

Cheng (2007) examined the relationship between creativity and personality types and the effect of culture and gender on the relationship of both variables. The study was conducted on 129 American and Taiwanese college students who were enrolled in Teacher Education course. The findings of the study indicated that there was significant positive relationship between creativity and intuitive personality type ($r = .365$) and creativity and perceiving personality type ($r = .202$). Further to find out the effect of culture and gender on the relationship of both the variables, the relationship was examined between creativity and personality types for Americans and Taiwanese and male and female separately. The results revealed that culture and gender both affected the

relationship as correlation coefficients between creativity and extrovert personality ($r = .286$), creativity and intuitive personality ($r = .395$) and creativity and perceiving personality ($r = .297$) were significant for Americans but for Taiwanese only relationship between creativity and intuitive personality ($r = .330$) was significant. The investigator concluded that creativity is related with personality type and "gender and culture" also have significant influence upon the relationship of both variables i.e. creativity and personality type.

Ivanovici and Christina (2008) attempted to describe the attitude of young Romanians towards creativity. The findings revealed that 78.3% of the respondents consider that people (male and female) were equally creative, while 16.98 % considered that women were more creative and only 4.72% believed that men were more creative than women. However, the researchers found that gender does not affect creative potential of individuals.

Stricker (2008) examined the perception of teachers belonging to arts, music, and technology branches of education with regard to creativity in their respective fields. The results of the study revealed that all teachers perceived the creative process as important factor to creative work. The teachers belonging to technology education assumed creative process as less important than the teachers of art and music. It was also found that teaching experience, level of education, gender were the significant determinants of creativity perception.

Mehta (2010) conducted a study to find out creative writing potentials among B.Ed. trainees in Gujarati language. The main objective of the study was to identify the components of creative writing and percentage of these components (writing potential) among trainees. The findings of the study revealed that (i) fluency, flexibility, originality and elaboration were the main components of creativity. (ii) 59.13 % of the trainees had fluency in writing, 46.81% trainees showed originality in writing, 46.37% had elaboration potential and only 30.75% had flexibility in writing. The researcher concluded that fluency potential is mostly available in creative writing as it is possessed by more than 50% of B.Ed. trainees while originality, elaboration and flexibility potential are found in less than half of trainees.

Wang (2011) investigated the difference between students and teachers of Taiwan and United States in creative thinking and tried to understand the factors that may cause the difference. The results showed that the most distinctive difference between two groups was the ability of elaboration, while no significant difference was found between the two nation groups in their abilities with fluency, originality and flexibility. Females scored relatively higher than males. The study also revealed significant and positive correlation between creativity and

academic achievement. The researcher arrived at the conclusion that gender and environment are the main factors that may cause difference in creative thinking.

Abdulrab & Sridhar (2012) tried to find out the barriers related to creative science teaching from the perspectives of science teachers in higher primary schools in Mysore (India). They found several major barriers related to teachers, schools, parents and students, in which repetition of same teaching plan, emphasis on theoretical explanation of lessons, disinterest in modern teaching methods were some of the barriers related to teachers. Among the barriers related to schools, lack of tools and equipment, traditional environment of classroom and school were the most common. Parents were unable to trace the progress of the children and the focus of students was also more on obtaining high ranks rather than getting knowledge. The researcher found that many factors related to teaching process, curriculum, school environment and student's interest affect creative teaching in schools.

Khan (2012) investigated the perception of English teachers about creativity and teaching creative writing. The sample of the study consisted of 70 in-service English teachers from a public sector university located at Lahore who were also pursuing masters in English. The results of the study revealed that 64% female teachers felt that they had creative disposition, while 68% male teachers consider themselves as creative. In contrast of this result, it was reported that 90% female teachers felt creative in their various approaches to life whereas only 15 % of male teachers had tendency to be creative in life. The researcher stated that teachers regard themselves as creative but they are not aware and interested in applying innovative strategies and methods in teaching to promote creativity.

Vasudevan (2013) examined the effect of creative thinking, creative learning, teachers' attitude and teacher's commitment on students' proficiency in English language. Three hundred and ten teachers at private schools were surveyed for this purpose. The results of this study revealed that creative thinking, creative learning, creative teaching, teacher's attitude and teacher's commitment positively and significantly influenced the students' proficiency in English language. However, creative thinking and creative teaching seemed to have the strongest correlation with student's proficiency in English language. The findings also revealed that 76% of the variation in students' proficiency could be explained by creative thinking and 69% by teachers' commitment, 68% by teachers' attitude and only 60% by creative teaching. In other words, 67% of the overall variance was explained by the all independent variables. The researcher arrived at the conclusion that creative thinking, learning, teacher's attitude and commitment contribute significantly to achieve mastery in a subject or thing.

Salam (2013) investigated the scientific creativity among college students in relation to gender and type of college. The results of the study revealed that boys and girls were found to be significantly different on fluency, flexibility dimensions of scientific creativity and total scientific creativity while no difference existed between boys and girls on originality dimension of scientific creativity. Male students possessed more scientific creativity than female students. Further, government college students were found to be more creative than the private college students. The study concluded that gender and type of school cause difference in total creativity and its dimensions.

Siew (2013) tried to explore the level of primary science teacher's creativity and creative attitude towards the use of creative questions. The study was conducted on a sample of 74 in-service primary science teachers of University of Malaysia. The results revealed that majority of primary science teachers possessed different levels of creativity i.e. moderate level (65.8%), low level (31.5%) and only 2.7% were deemed to be at an acceptable level. It was also found that creative questions facilitated primary school teachers to develop an increased level of fluent and flexible thinking. However, the originality dimension of creative abilities of science teachers was at low level. Another finding indicated that primary science teachers had positive attitudes towards the use of creative questions in learning and teaching of physics. The researcher stated that very few science teachers possess acceptable level of creativity but they have positive attitude towards creative learning and teaching. On the basis of the perusal of the above studies, it can be concluded that a number of studies have been conducted on creativity and other miscellaneous variables.

Some researchers (Bhandarkar, 1989; Dhalla, 1990; Biswas and Biswas, 1991; Chan and Chan, 1999; Lee & Seo, 2006; Aljughaiman and Reynolds, 2005; Mehta, 2010) examined the understanding level of teachers about creativity and its various components. Bhandarkar (1989) found that school and family are the causes of suppressing the creative abilities of meritorious individuals. Dhalla (1990) Chan and Chan (1999) Aljughaiman and Reynolds (2005) depicted that creative individuals possess various kind of qualities like high intellect, attentive, disciplined positive self-concept, imagination, diverse thinking and courage more than average level.

Biswas and Biswas (1991) pointed out that creative individuals have more specific talents such as patience and adjustment power than non-creative. Lee & See, (2006) stated that teachers possess thorough knowledge of cognitive aspect but they are less aware of personal and environmental components of creativity. However, Mehta (2010) tried to find out the main components of creativity and concluded that fluency, flexibility, originality and

elaboration are main components of creativity and fluency component is mostly available in creatives. Besides this, few studies (Afsan, 1991; Gautam, 1992; Chan and Chan, 1999; Scott, 1999; Cheng, 2007; Ivanovici and Christina, 2008; Sticker, 2008; Wang, 2011; Siew, 2013 and Salam, 2013) were conducted to investigate the effect of demographic variables on creativity. Afsan (1991) found that location does not cause any difference in creativity and Wang (2011) revealed that environment causes difference in creative thinking. Few researchers (Gautam, 1992; Chan and Chan, 1999; Scott, 1999; Cheng, 2007; Sticker, 2008; Wang, 2011; Salam, 2013) found that gender has significant effect on creativity and attitude towards creative traits. However, Ivanovici and Christina (2008) found that gender does not affect the attitude of individuals towards creative potential. Chan and Chan (1999) found level of teaching does not influence the perception of teachers regarding creativity and creative traits while stream of teaching is found to have effect on the perception of teachers regarding creativity in the studies of Sticker (2008) and Siew (2013). Cheng (2007) indicated that culture influences significantly the relationship between creativity and personality and Salam (2013) stated that type of school also causes difference in students regarding creativity level.

Few researchers (Gaspar, 2005; Cheng, 2007; Ng and Hor, 2005; Brandau et al., 2007; Vaudevan, 2013) investigated the relationship of creativity with various cognitive and personality variables. Gaspar (2005) and Cheng (2007) found significant relationship between creativity and personality variables, Gaspar (2005) further pointed out teacher's creative attitude and student's creative attitude are associated with each other while Ng and Hor (2005) found significant relationship among teaching attitude, emotional intelligence and creativity. Brandau et al. (2007) depicted that behavior of students is associated with their creativity. Vaudevan (2013) concluded that creative thinking and creative teaching seemed to have higher correlation with students' proficiency in English language. Apart from this, creativity has also been examined with other variables like socioeconomic status and other environmental factors. Gautam (1992) examined creativity with reference to social variables and pointed out that socio-economic status does not influence creativeness. Scott (1999) found a statistically significant difference between teacher perception and college student perceptions of creative student behavior. Rehm (1989) revealed that sharing of ideas, motivation and innovative tasks promote creativity while lack of courage and autocratic thinking hinder the development of creative abilities. Abdulrab & Sridhar (2012) found that many factors related to teaching process, curriculum, school environment, student's interest affect creative teaching in schools. Khan (2012) stated that teachers regard

themselves as creative but they are not aware and interested in applying innovative strategies and methods in teaching to promote creativity.

Critical Appraisal

The review of the studies mentioned so far gives a perspective of the empirical works done in the area. It helps the researcher to know what has already been done and what is needed to be explored in the area of attitude towards nurturing creativity in relation to demographic variables and School Climate. On the basis of the above studies conducted in the last years it can be said that creativity has been the area of interest among researchers in the field of education. A meticulous analysis of the related studies has enabled the investigator to expand the horizon of understanding on the research problem taken up for the present study. The collection of related literature from national, international journals, theses, and books has enriched the knowledge of the investigator in the subject matter of the study.

The review of research presented in the preceding pages shows that host of researches (True, 1966; Tripathi & Shukla, 1990; Jawahar, 1990; Gakhar, 1991; Clapham, 1997; Cropley & Cropley, 2000; Fleith, 2000; Roy, 2004; Park et al., 2006; Hosseinee, 2008; Adams, 2013; Modi, 2013; Nilson et al., 2013) have been conducted to examine the effect of training programs, creative art programmes and creative techniques on the development of creativity and how teachers employ various techniques and methods in classroom for nurturing creative and critical thinking. Out of these studies, all researchers (True, 1966; Tripathi & Shukla, 1990; Jawahar, 1990; Gakhar, 1991; Clapham, 1997; Cropley & Cropley, 2000; Fleith, 2000; Roy, 2004; Park et al., 2006; Hosseinee, 2008; Modi, 2013; Nilson et al., 2013) found positive effect of training, art programs and techniques on creative development. Similarly, Adams (2013) found training helpful in improving the way of teaching and instructing in classroom for enhancing creativity.

Few studies (Dhalla, 1990; Biswas and Biswas, 1991; Chakraborty, 1992; Chan and Chan, 1999; Scott, 1999; Fleith, 2000; Aljughaiman and Reynolds, 2005; Lee & Seo, 2006; O' Farrell, 2009; Mehta, 2010; Khan, 2012; Okoli et al., 2014) have been carried out to assess the awareness and knowledge about creativity, creative student behaviour and potentials and its enhancing techniques. In the studies of Scott (1999) O'Farrell (2009) Mehta (2010) and Okoli et al. (2014) teachers has been found to have awareness and knowledge about creativity and its various techniques but they are not making any attempt to apply them in classrooms. On the contrary, some studies (Chakraborty, 1992; Khan, 2012) revealed that teachers are ignorant about creative techniques so they are not applying them while, ; Lee & Seo, (2006)

stated that teachers possess thorough knowledge of cognitive aspect but they are less aware of personal and environmental components of creativity. It was also found that teachers and students have different view regarding creativity, its techniques and creative student behaviour (Scott, 1999; O'Farrell, 2009). Some studies (Dhalla, 1990; Biswas and Biswas, 1991; Chan and Chan, 1999; Fleith, 2000; Aljughaiman and Reynolds, 2005) examined the knowledge about creative individuals and it was found that creative individuals possess various kinds of qualities (Dhalla, 1990; Chan and Chan, 1999; Fleith, 2000; Aljughaiman and Reynolds, 2005) and these qualities are more than non-creatives (Biswas and Biswas, 1991).

By reviewing these above-mentioned studies, it is found that most of the researchers have conducted researches to assess the effect of training programs on creativity and its development, and only a few on teachers' perception but they are very less in number. Therefore, it gives clear indication that no research has been conducted to assess the attitude towards nurturing creativity in educational area. The investigator could find only the studies related to various aspects of creativity enhancement rather than directly related to attitude towards nurturing creativity.

A close examination of studies related School Climate in relation to nurturing creativity reveals that the role of School Climate in developing creativity has been examined by various researchers (Roger, 1954; Getzels & Jackson, 1962; Domino, 1979; Sloane, 1985; Bowes, 1986; Agarwal, 1988; Passi, 1989 and Fleith, 2000) and all stated that School Climate affects the cultivation of creativity and creative potentials. Few researchers attempted to know the inhibitors and promoters of creativity (Hallman, 1967; Bhandarkar, 1989; Rehm, 1989; Hill, 1992; Fleith, 2000; Alotaibi, 2006 and Abdulrab & Sridhar, 2012), some tried to observe the qualities of good School Climate (Sutherland, 1994; Alotaibi, 2006; Gunbayi, 2007). Again, it clearly depicts that only a few researches have been conducted to investigate the impact of School Climate on the development of creativity and no single study was found on the relationship between attitude towards nurturing creativity and School Climate.

Some researches on creativity (Gupta, 1988; Afsan, 1991; Gautam, 1992; Chan and Chan, 1999; Scott, 1999; Cheng, 2007; Ivanovici and Christina, 2008; Sticker, 2008; Wang, 2011; Siew, 2013 and Salam, 2013) have been conducted in relation to demographic variables. Among them, Afsan, 1991 and Gupta, 1988 investigated the effect of location on creativity and creativity development and some researchers (Gupta, 1988; Gautam, 1992; Chan and Chan, 1999; Scott, 1999; Cheng, 2007; Ivanovici and Christina, 2008; Sticker, 2008; Wang, 2011 and Salam, 2013) assessed the effect of gender on creativity and its

development. Afsan (1991) found that location does not cause any difference in creativity but contrary, Gupta (1988) found that location affects the development of creativity. Gender was found to have significant effect on creativity, its development and attitude towards creative traits (Gupta, 1988; Gautam, 1992; Chan and Chan, 1999; Scott, 1999; Cheng, 2007; Sticker, 2008; Wang, 2011; Salam, 2013). However, Ivanovici and Christina (2008) found that gender does not affect the attitude of individuals towards creative potential. Along with this, effect of level of teaching (Chan and Chan, 1999), streams of teaching (Sticker, 2008; Siew, 2013), culture (Cheng, 2007), environment (Wang, 2011) and type of school (Salam, 2013) found to be affecting the development of creativity.

Some researchers (Gaspar, 2005; Cheng, 2007; Ng and Hor, 2005; Brandau et al., 2007 and Vaudevan, 2013) investigated the relationship of creativity with other social, cognitive, and behavioural variables. It was found that creativity is associated with personality variables (Gaspar, 2005; Cheng, 2007), with emotional intelligence and teaching attitude (Ng and Hor, 2005) and with student's behaviour (Brandau et al., 2007). It was found that teacher's creative attitude and student's creative attitude are associated with each other (Gaspar, 2005) and creative thinking and teaching is related with student's proficiency (Vasudevan, 2013).

After reviewing the above-mentioned studies, it can be concluded that few researches have been conducted to know the effect of demographic variables on creativity specially, the effect of level of teaching and stream of teaching on creativity. Apart from this, the investigator could find hardly any study which was carried on to assess the effect of demographic variables (gender and location) on attitude of secondary school teachers towards nurturing creativity.

Briefly, it can be concluded that various researches have been conducted to examine the effect of training programs and techniques etc. on creativity enhancement and School Climate improvement, to assess the impact of School Climate on creativity, to know the qualities of a good School Climate, inhibitors of creativity related to school and to know the effect of demographic variables on creativity and teachers' perception regarding creativity and creativity traits but these researches are very less in number. Apart from this, the investigator could not find any study which was carried on to compare the attitude of secondary school teachers belonging to science and arts streams towards nurturing creativity. Therefore, the present investigator has tried to compare the attitude of secondary school teachers belonging to science and arts streams towards nurturing creativity in relation to rural-urban location, gender difference and School Climate. In

this way, after thorough analysis of previous studies, the following gaps have been found to be answered through the present study:

- To know the attitude of secondary school teachers towards nurturing of creativity among students
- To compare the attitude of secondary school teachers belonging to Science and Arts streams towards nurturing of creativity
- To compare the attitude of secondary school teachers belonging to Science and Arts streams towards nurturing of creativity in relation to demographic variables (gender and location)
- To assess the quality level of secondary School Climate from the point of view of teachers
- To assess the quality level of secondary School Climate from the point of view of teachers belonging to Science and Arts streams
- To assess the effect of School Climate on the attitude of secondary schoolteachers towards nurturing creativity

III. PROPOSED METHODOLOGY

(Marvasti 2004) refers to research methodology as steps including (i) framing of research questions based on a theoretical orientation, (ii) selection of research respondents, (iii) Data collection, (iv) data analysis and (v) reporting of results. Research design is a mapping strategy, essentially a statement of the object of inquiry and the strategies for collecting the evidences, analyzing the evidences and reporting of the findings. (Singh, 2006).

This section discusses the methodological procedures followed in this study to achieve the objectives of the research. It includes selecting the research method, identifying the research population, selecting the sample, clarifying the steps of research tool construction and selecting appropriate statistical techniques to achieve the objectives of research.

Research Method

It is critically important that the choice of research design should be in accordance with the subject under investigation (Patton, 1987). The present study is quantitative research in nature and quantitative research methods have been utilized to test the proposed objectives. Quantitative research in education can be categorized into two types: (i) descriptive studies and (ii) studies intended to discover causal relationships. Descriptive studies deal with the findings at "what is" and the causal-comparative method is aimed at the "discovery of possible causes for the phenomena being studied by comparing subjects in whom a characteristic is present with similar subjects in

whom it is absent or present to a lesser degree” (Borg & Gall, 1989).

Since the major objective of this research is to “understand the attitude of secondary school teachers towards nurturing creativity in relation to rural urban location, gender difference and School Climate” therefore the most suitable method for the purpose is Descriptive Survey Method. Descriptive research is referred to as survey research and is mainly concerned with “attitude, opinions, preferences, demographist, practices and procedure” (Gay & Eurasian, 2000).

Research Population & Sample

The state of Bihar has 38 districts having 3701 secondary schools as per 2015-16 report prepared by Government of Bihar Education department. According to the data provided by All India Education Survey, NCERT, the total number of secondary school teachers employed in Bihar is 35,487 teachers. The research population of secondary school teachers of Bihar is focused in Patna and surrounding districts of Vaishali and Muzaffarpur. This has been specifically done to divide the sample into various strata on the basis of location (rural and urban), and gender of the teacher (male or female). The sample of research was selected by employing two techniques of sampling i.e. multi-stage sampling technique and stratified random sampling.

The selection of Patna, Vaishali and Muzaffarpur has been selected randomly keeping in view the network access of the secondary school teachers of these districts. Under these three districts there are 23 blocks in Patna and 16 blocks in each district of Vaishali and Muzaffarpur. At least one school from each block has been randomly selected and to balance the urban sample population 10 schools were randomly selected from Patna Sadar, 4 schools from Hajipur block of Vaishali district and 4 schools from Musahri block of Muzaffarpur town. Total of 70 schools were selected by employing the same random sampling technique. Finally, stratified random sampling technique was employed to select the teachers from these schools. The investigator administered the research tools on a sample of 700 teachers. Out of the sample, the investigator found that 76 answer sheets were incomplete or had inappropriate answers therefore, such answer sheets were discarded. It turns out to be total of 624 secondary school teachers were selected as the sample of the study. The figure (4.1) below further illustrate the selection procedure of the sample:

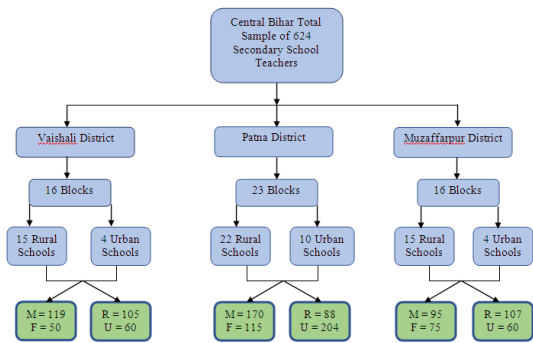


Figure 4.1 Selection Procedure of the Sample

TABLE 1. RESEARCH SAMPLE

Variables	Rural	Urban	Total
Male	230	154	384
Female	70	170	240
Total	300	324	624

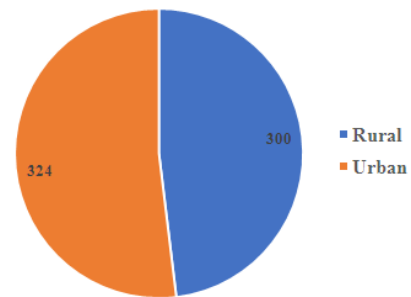


Figure 4.2: Sample Distribution (Location)

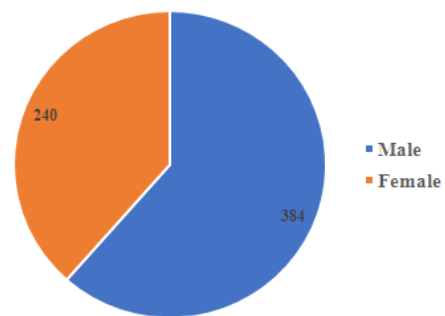


Figure 4.3: Sample Distribution (Gender)

IV. RESEARCH SAMPLE

The research sample consisted of 624 secondary school teachers of three popular districts of Bihar namely capital city Patna, Vaishali and Muzaffarpur. This was done primarily to include the sample study from different social strata and background. It was selected through multi-stage sampling technique and stratified random sampling technique.

V. RESEARCH TOOLS

In the present research, two tools have been constructed by the researcher: (a) tool of Attitude of secondary school teachers towards Nurturing Creativity and (b) tool of School Climate. The validity criterion of the tools has been ensured through two methods: (a) content validity and (b) construct validity. Alpha Cronbach Coefficient has been used to assess the reliability of the tools. The reliability coefficient of Attitude towards Nurturing Creativity is 0.88 while for the scale of School Climate the reliability coefficient is 0.89. The final format of the scale Attitude towards Nurturing Creativity consisted of five domains: (i) Concept of Creativity, (ii) Factors affecting Creativity, (iii) Enhancement of Creativity, (iv) Myths related to Creativity, (v) Identification / Indicators of Creativity. While the final format of scale "School Climate" consisted of four domains: (i) Stakeholders Relationship, (ii) Infrastructure, (iii) Psychological Impact, and (iv) Academic Activities. The tools offered three choices to express different degrees of responses (as for attitude towards nurturing creativity: Strongly Agree = 5, Agree = 4, Don't Know = 3, Disagree = 2, Strongly Disagree = 1 and School Climate scale: Yes = 3, Partly = 2, No = 1).

VI. STATISTICAL METHODS

The data has been analysed with the help of SPSS and AMOS graphics and subjected to statistical treatment at three levels:

1. Analysis to check the normality and homogeneity of the data.
2. Descriptive statistics (mean, standard deviation, and percentage etc).
3. Inferential analysis (t test, anova, regression, etc)

VII. CONCLUSION

The present study aims to investigate various educational reforms taken by Government of Bihar and its implications in School Education in 3 districts of Bihar, namely Patna, Vaishali and Muzaffarpur on various parameters like students' creativity and school overall performance or ambience. The study consisted of a representative sample of 624 teachers taken from the target population. The main findings are as follows:

6) The attitude of secondary school teachers towards nurturing creativity is positive. They have good knowledge about creativity, barriers affecting creativity, enhancing creativity among students, misconceptions related to creativity and indicators of creativity.

7) According to secondary school teachers, creativity is mostly affected by autonomy or freedom at the work place then the parenting style of offspring.

8) The most prevailing misconception among teachers about creativity is that creativity is reserved for the people of certain caste and race and the most common indicator of creativity is diversity of ideas in creative people.

9) The results also reveal that the quality level of school education is better post Government of Bihar steps taken on educational reforms.

10) School emerges as a significant predictor and explains around 20% of variance in attitude towards nurturing creativity of secondary school teachers.

VIII. RECOMMENDATIONS / IMPLICATIONS

explain the future of his/her research.

The following paragraphs describe the implications of the findings of present study for different stakeholders:

Implications for Policy Makers/Planners/Administrators

1) In the light of findings of the study, it can be suggested that new courses in Psychology and Education should be added at Bachelor degree to develop the concept of creativity and other psychological concepts for the future teachers of Bihar.

2) Guidance and counseling programs may be organized in the schools to discover creative children and to provide proper guidance for shaping the abilities and skills of innovation and creativity among students.

3) Workshops, seminars and training programs related to creativity and its various aspects as how to identify and nurture creativity, how to remove the barriers affecting creativity and importance of creativity may be conducted for the teachers and administrators.

4) Skill based programs and courses may be included in the curriculum to develop the creativity among students.

5) Educational facilities like computers, smart classrooms, sport facilities, laboratories and equipped libraries may be made available for promoting creativity among students.

6) Co-curricular activities, field excursions may be made an essential part of course work.

7) As the School Climate is an important factor in educational system therefore, workshops and seminars may be organized on the qualities of good School Climate for the teachers, administrators and principals.

8) Government may formulate new standards to improve quality level of School Climate, which may be

used by the evaluators or the researchers to evaluate the quality level of schools.

9) There should be continuous evaluation of schools so that they may improve qualitative parameters of School Climate.

10) It is suggested that the government should bridge the gap between the rural and urban locations by providing rural students amenities and facilities at par with urban students. Moreover, adequate incentives may be provided to rural area teachers to encourage them to put their best contribution in teaching-learning process.

11) It is suggested that provisions may be made for the cultivation of creativity among students and creative teaching.

12) The findings of the study reveal that autonomy at work place affects creativity therefore, freedom may be provided to teachers at planning level, execution level and evaluation level.

Implications for Teachers

- 1) The findings of the study emphasize that teachers should understand the importance of creativity. They should be aware of various aspects of creativity so that they can identify the novelty and originality among students. Thus, recognizing creative talent of children may enable the teachers to organize their instructions according to the individual needs and thus, it may be helpful in facilitating creativity among students.
- 2) The study would create awareness among teachers about the concept of creativity and the parameters of considering creative or innovative learning. They may create innovative environment in the classrooms. They may use innovative methods and strategies of teaching and organize field trips for students.
- 3) The study would be helpful for the teachers to know about the factors, which negatively affect the enhancement of creativity (i.e. anxiety of individual, restricted environment, poor inter-personal relationship etc.). The knowledge of this aspect would enable them to decrease the impact of these factors, which creates hindrance in the innovativeness.
- 4) School teachers may use analytical and criterion-based evaluation procedures to make teaching-learning process more effective. They may use child centred methods so that they may interact with students openly and understand their needs.
- 5) Individual difference, curious and exploratory nature of students may be taken into consideration by

teachers and curriculum planners so that students may get opportunities to explore their creativity.

- 6) The findings of the study would create awareness among teachers and students about the misconceptions related to creativity (such as creativity is only an inborn gift, or it reserved for certain kind of people or it may be nurtured through training etc.), prevailing among them so that they may overcome them.

IX. FUTURE RESEARCH

Here author will explain the future of his/her research.

This research extends the following suggestions for future researches:

1. The future research can be done on the parameter of "level of creativity" among students.
2. Future study can also be done on long term observation method to analyse various creativity output.
3. Future research can be conducted at college and University level.
4. The present research can be extended to some other geographical area at entire Bihar level of anywhere else.
5. The present research is descriptive survey research describing teacher's attitude towards imparting creativity. In future, various experimental researches can be carried out to develop training programmes for teachers.
6. Future studies can also be done in relation to other variables like teaching experience, educational qualification, socio-economic background, age etc.
7. Future studies may be conducted to measure the effect of creative training on the attitude towards creativity in relation to School Climate.

REFERENCES

- [1] Adams, J.W. (2013). A case study: using lesson study to understand the factors that affect teaching creative and critical thinking in the elementary classroom (Ph.D. thesis). Drexel University.
- [2] Adelson, B. (1984). When novices surpass experts: The difficulty of a task may increase with expertise. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 10 (3), 483-495.
- [3] Agarwal, K.P. (1988). Types of schools and corresponding factors as predictors of creativity at secondary level. (Ph.D. thesis) Jamia Millia Islamia, In M. B. Buch Fifth Survey of Educational Research, 1, New Delhi: NCERT.

- [4] Aggarwal, J. C. (1966). Progress of education in free India: Current problems of Indian education. New Delhi, Arya Book Depot.
- [5] Ahmad, F., & Garg, S. (2007). Forty years of Kothari commission-reforms and reflections. New Delhi, Viva Books Private Ltd, 1-14.
- [6] Albert, R. S. (1975). Toward a behavioural definition of genius. USA, American Psychologist, 140-151.
- [7] Albert, R.S. (1969). The concept of genius and its implications for the study of creativity and giftedness. San Francisco: Jossey-Bass.
- [8] Aljughaiman, A. & Reynolds, E. M. (2005). Teachers conceptions of creativity and creative students. Journal of Creative Behaviour, 39 (1), 17-34.
- [9] Allport, G. (1954). The nature of prejudice. Reading, MA: Addison-Wesley.
- [10] Alotaibi, M.A.D. (2006). School Atmosphere, It's Barriers and role in teachers' performance in general education stages. Unpublished Thesis, Naif Arab University for Security Science, College of Higher Studies, Kingdom of Saudi Arabia.
- [11] Amabile, T. M. (1983). Social psychology of creativity: A componential conceptualization. Journal of Personality and Social Psychology, 45, 357-377.
- [12] Amabile, T. M. (1983). The social psychology of creativity. New York: Springer Verlag.
- [13] Amabile, T. M. (1985). Motivation and creativity: Effects of motivational orientation on creative writes. Journal of Personality and Social Psychology, 45, 357-377.
- [14] Amabile, T. M. (1988). A model of creativity and innovation in organizations. Research in Organizational Behaviour, 10, 123-167.
- [15] Amabile, T. M. (1997). Motivating creativity in organizations: On doing what you love and loving what you do. California Management Review, 40 (1), 39- 58.
- [16] Anastasi, A. & Urbina, S. (1997). Psychological testing (7th ed.). River, NJ: Prentice Hall.
- [17] Anderson, C. (1982). The search for school climate: a review of the research. Review of Educational Research, 52(3), 368-420.
- [18] APA (2015). APA dictionary of Psychology (2nd Ed.). Washington, DC: Author.
- [19] APA, (2014). APA dictionary of statistics and research methods. Washington, DC: Author.
- [20] Ausubel D. (1963). The Psychology of Meaningful Verbal Learning. New York: Grune and Stratton.
- [21] Baer, J. (1995). Generality of creativity across performance domains. Creativity Research Journal, 4, 23-39.
- [22] Barron, F. (1969). Creative person and creative process. New York: Holt, Rinehart and Winston Inc.
- [23] Barron, F., & Harrington, D. M. (1981). Creativity, intelligence, and personality. Annual Review of Psychology, 32, 439-476.
- [24] Benjamin, P. J. (2011). An examination of the relationship between school climate and student growth in select Michigan charter schools (Master's Theses). Retrieved on September 2016 from <http://commons.e-mich.edu/cgi/viewcontent.cgi?article=1355&context=theses>
- [25] Bernstein, L. (1992). Where is reform taking place? An analysis of policy changes and school climate. Educational Evaluation and Policy Analysis, 14, 297-302.
- [26] Best, J. W. & Khan, J.V. (2001). Research in education (7th ed.). New Delhi: Prentice-Hall of India Pvt Ltd.
- [27] Bhandarkar, S. (1989). An experimental study of intellectual and creative suppression/stagnation of meritorious students in the present curriculum. Ph.D. Education, Nagpur University, Cited in M. B. Buch Fifth Survey of Educational Research, Vol. I, NCERT, New Delhi, pp. 193.
- [28] Biswas, P.C. and Biswas, S. (1991). Reactions to frustration of creative and non-creative school-going adolescents. Indian Educational review, vol. 26 (1): 5663, In M. B. Buch Fifth Survey of Educational Research, Vol. I, NCERT, New Delhi, pp. 184.
- [29] Bloom, B. S. (1985). Developing talent in young people. New York: Ballantine.
- [30] Boorstin, D. J. (1992). The creators: A history of heroes in the imagination. New York: Random House.
- [31] Borg, W.R., & Gall, M.D. (1989). An Introduction (5th ed.). New York: Longman.US.
- [32] Bowes, M. (1986). Education for creativity: Implications for secondary schools. Pastoral care, 4 (2), 116-121.
- [33] Brandau, H., Daghofer, F., Hollerer, L., Kaschnitz, G., Kellner, K., Kirchmair, G. (2007). The relationship between creativity, teacher ratings on behaviour, age, and gender in pupils from seven to ten years. Journal of Creative Behaviour, 41(2), 91-113.
- [34] Brookover, W. B., Schweitzer, J. H., Schneider, J.M., Beady, C.H., Flood, P. K., Wisenbaker, J. M. (1978). Elementary school social climate and school achievement. American Educational Research Journal, 15(2), 301-318.
- [35] Brown, G. J., & Henry, D. (1992). Using the climate survey to drive school reform. Contemporary Education, 63, 277-280.
- [36] Brown, J.D. (1996). Testing in language programs. Upper Saddle River, NJ: Prentice Hall Regents.
- [37] Brown, K. E. & Medway, F. J. (2007). School climate and teacher beliefs in a school effectively serving poor South Carolina (USA) African American students: A case study. Teaching and Teacher Education, 23, 529-540.
- [38] Bruner J. (1965). The growth of mind. American Psychology, 20:1007-1017

- [39] Bulach, C. R. & Malone, B. (1994). The relationship of school climate to the implementation of school reform. *ERS SPECTRUM*, 12, 3-8.
- [40] Buno, L. (1989). A critical review of some research studies on creativity in Indian schools. M. Phil, Education, University of Delhi, In M. B. Buch *Fifth Survey of Educational Research*, Vol. I, NCERT, New Delhi, pp. 190.
- [41] Campbell, D. T. (1963). Social attitudes and other acquired behavioural dispositions. In S. Koch (Ed.), *Psychology: a study of a science* (pp. 94 – 172). New York: McGraw-Hill.
- [42] Chakraborti, M. (1990). A study of the organizational climate of secondary schools in West Bengal and its correlation with other relevant variables. In M. B. Buch *Survey of Educational Research* (1988-92), Vol. II, 1818-1819.
- [43] Chakraborty, B.D. (1992). Education of the creative children. pp. 8, 15-30, 177, Delhi: Konark Publishers Pvt Ltd.
- [44] Chan, D. W., & Chan, L. (1999). Implicit theories of creativity: Teacher's perception of student characteristics in Hong Kong. *Creativity Research Journal*, 12(3), 185-195.
- [45] Cheng, S., & Chan, A. M. (2003). The development of a brief measure of school attitude. *Educational and Psychological Measurement*, Sage Publications Inc., Vol. 3 No. 6, pp. 1060-1070.
- [46] Cheng, Y. (2007). An examination of the relationship between creative potential and personality types among American and Taiwanese college students of Teacher Education. Master's Thesis, Department of Teacher Education, Eastern Michigan University, <http://commons.emich.edu/theses>
- [47] Choudhry, S. (1982). A study of the relationship between the creative thinking abilities of student-teachers and their classroom verbal behaviour. Ph. D. thesis, Psy. Delhi university cited in Buch, M. B (1997) *Third survey of research on education*. Trend reports, Vol. I p. 420, NCERT New Delhi.
- [48] Christopher, G. (1988). The aesthetic environment and student learning. *School Business Affairs*, 54 (1), 26-27.
- [49] Clapham, M. M. (1997). Ideational skills training: A key element in creativity training programs. *Creativity Research Journal*, 10, 33-44.
- [50] Cohen, J. & Geier, V.K. (2010). *School Climate Research Summary*. New York, N.Y. (www.schoolclimate.org/climate/research.php).
- [51] Cronbach, L. (2004). My current thoughts on coefficient alpha and successor procedures. Center for the Study of Evaluation (CSE), University of California, Los Angeles.
- [52] Cropley, A. J. (1966). Creativity and intelligence. *British Journal of Educational Psychology*, 36, 259-266.
- [53] Cropley, D.H. & Cropley, A. J. (2000). Fostering creativity in engineering undergraduates. *High Ability Studies*, 11, (2), 207-219.
- [54] Crutchfield, R. (1962). Conformity and creative thinking. In H. Gruber, G. Terrell, & M. Wertheimer (Eds.), *Contemporary approaches to creative thinking* (pp. 120-140). New York: Atherton.
- [55] D'Cruz, P. (2008). *Thinking creatively at work: A sourcebook*. Response Books, Business Books from Sage, New Delhi, India.
- [56] Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives*, 8(1) 111-119.
- [57] De Bono, E. (1971). *Lateral thinking for management*. New York: McGraw-Hill.
- [58] De Bono, E. (1985). *Six thinking hats*. Boston: Little, Brown.
- [59] De Bono, E. (1992). *Serious creativity: Using the power of lateral thinking to create new ideas*. New York: Harper Collins.
- [60] Education Commission, & Kothari, D. S. (1966). *Report of the Education Commission, 1964-66: Education and National Development*. Government of India Press, India.
- [61] Eysenck, H. J. (1993). Creativity and personality: A theoretical perspective. *Psychological Inquiry*, 4, 147-148.
- [62] Feist, G. J., & Runco, M. A. (1993). Trends in the creativity literature: An analysis of research in the journal of *Creativity Behaviour* (1967-1989). *Creativity Research Journal*, 6, 271-286.
- [63] Feist, G. J. (2010). The function of personality in creativity: The nature and nurture of the creative person. In J. C. Kaufman & R. J. Sternberg (Eds.), *Cambridge handbook of creativity* (pp. 113-130). New York, NY: Cambridge University Press.
- [64] Fenzel, L. M. & Brennan, L.M. (2007). The Effects of School Climate on Motivation and Academic Achievement. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- [65] Field, A. (2009). *Discovering statistics using SPSS*. (3rd ed.). London: SAGE Publications.
- [66] Finke, R. A., Ward, T. B., & Smith, S. M. (1992). *Creative cognition: Theory, Research, and applications*. Cambridge, MA: MIT Press.
- [67] Fishbein, M. (1967). *Readings in Attitude Theory and Measurement*. John Wiley & Sons, Inc., New York.
- [68] Fleith, D. (2000). Teacher and student perceptions of creativity in the classroom environment. *Roeper Review*, 22(3) 148-53 Retrieved on 30/11/2015 from ProQuest database.
- [69] Freiberg, H. J. (1998). Measuring school climate: Let me count the ways. *Educational Leadership*, 56 (1), 22-26.
- [70] Gandini, L. (1992). Creativity comes dressed in everyday clothes. *Child Care Information Exchange*, 85, 26-29.
- [71] Gardner, H. (1993). *Creating Minds*. New York: Basic.

- [72] Gardner, H. (1993). *Frames of mind: the theory of multiple intelligences*. New York: Basic books.
- [73] Gaspar, O. D. (2005). *The Teacher's Creative Attitudes – An Influence Factor of the Students' Creative Attitudes*. Retrieved from:
- [74] http://conference.pixel-online.net/edu_future/common/download/Paper_pdf/ITL53-Gaspar.pdf 10/10/ 2015.
- [75] Gautam, S. (1992). *Development of creative thinking and leadership among Navodaya Vidyalaya students.*, Ph.D. thesis, Education, Himachal Pradesh University, In M. B. Buch *Fifth Survey of Educational Research*, Vol. I, NCERT, New Delhi, pp. 180.
- [76] Gay, L.R., & Airasian, P. (2000). *Educational Research: Competencies for Analysis and Application* (6th ed.). New Jersey: Prentice-Hall, Inc.
- [77] Getzels, J.W. & Csikszentmihalyi, M. (1976). *The creative vision: A longitudinal study of problem-solving in art*. Wiley, New York, NY.
- [78] Getzels, J.W., and Jackson, P.W. (1962). *Creativity and intelligence: Exploration with gifted students*, pp. 20, 56-64. New York: John Wiley & Sons, Inc.
- [79] Golann, S. E. (1962). *The creativity motives*. *Journal of personality*, 39, 588-600.
- [80] Gonder, P. O. & Hymes, D. (1994). *Improving school climate and culture (AASA critical issues report NO.- 27)*. Arlington VA: American Association of school Administrators.
- [81] Gordon, W. J. J. (1961). *Synectics: The development of creative capacity*. New York: Harper & Row.
- [82] Gough, H. G. (1979). *A creative personality scale for the Adjective Check List*. *Journal of Personality and Social Psychology*, 37 (8): 1398- 1405.
- [83] Government of India (1966). *Report of the Education Commission*. New Delhi: Ministry of Education. Government of India (1986). *National Policy of Education*. New Delhi: Ministry of
- [84] Human Resource Development.
- [85] Gregory, A., Cornell, D., Fan, X., Sheras, P., Shih, T., & Huang, F. (2010). *Authoritative school discipline: High school practices associated with lower student bullying and victimization*. *Journal of Educational Psychology*, 102, 483-496.
- [86] Guilford, J.P. (1950). *Creativity*. *American Psychologist*, 5, 444-445.
- [87] Gupta, K. K. (1988). *The creative development of secondary school children in relation to sex, intelligence and urban and rural background*. Ph.D. Education, Agra University, In M. B. Buch *Fifth Survey of Educational Research*, Vol. I, NCERT, New Delhi,
- [88] Hallman, R. J. (1967). *Techniques of creative teaching*. *The Journal of Creative Behaviour*, 1, (3), 325-326.
- [89] Hennessey, B. A. (2010). *The creativity–motivation connection*. In J. C. Kaufman & R. J. Sternberg (Eds.), *Cambridge handbook of creativity* (pp. 342–365). New York, NY: Cambridge University Press.
- [90] Hill, R. (1992). *Finding creativity for children*. Paper presented for leadership accessing symposium, Lafayette, In March 4-5.
- [91] Hoy, W., Tarter, C., & Kottkamp, R. (1991). *Open schools, healthy schools: Measuring organizational climate*. Newbury Park, CA: Sage.
- [92] Hoy, W.K. & Forsyth, P.B. (1986). *Effective Supervision: theory in practice*. New York: Random House Inc.
- [93] Huck, S. W. (2004). *Reading Statistics and Research* (4th ed.). New York: Pearson Education,
- [94] Inc.
- [95] Jeffrey, B. and Craft, A. (2004) *Teaching creatively and teaching for creativity: distinctions and relationships*. *Educational Studies*, 30(1), 77-87.
- [96] Johnson, W. L. & Johnson, A. M., & Zimmerman, K. (1996). *Assessing school climate priorities: A Texas study*. *The Clearing House*, 70 (2), 64-66.
- [97] Johnson, W. L. & Johnson, M. (1993). *Validity of the quality of school life scale: A primary and second order factor analysis*. *Educational and Psychological Measurement*, 53 (1), 145-153.
- [98] Khandwalla, P. N. (2004). *Lifelong Creativity-An Understanding Quest*. New Delhi: Tata Mc-Graw-Hill Publishing Company Ltd.
- [99] Kothari, C.R. (2004). *Research methodology: methods and techniques*. New Delhi: New Age International (P) Limited.
- [100] Kuperminc, G. P., Leadbeater, B. J., Emmons, C., & Blatt, S. J. (1997). *Perceived school climate and difficulties in the social adjustment of middle school students*. *Applied Development Science*, 1(2), 76-88.
- [101] Lane, M. (2005). *E-Statistics Education: A Multimedia Course of Study*. http://onlinestatbook.com/Online_Statistics_Education.pdf
- [102] Loukas, A. (2007). *NAESP: What is school climate?* 5 (1) Retrieved on August 2014 from https://www.naesp.org/resources/2/Leadership_Compass/2007/LC2007v5n1a4.pdf
- [103] Ma, H. (2009). *The effect size of variables associated with creativity: A meta-analysis*. *Creativity Research Journal*, 21 (1), 30-42.
- [104] MacKinnon, D. W. (1970). *Creativity: A multi-faceted phenomenon*. *Creativity*, 1732.
- [105] Maddock, S. (2007). *The journey of a creative thought leader*. *The Innovation Journal: The Public Sector Innovation Journal*, 12(1), 1-15.

- [106] Mangal, S.K. (2008). *Statistics in Psychology and Education*. New Delhi: Prentice hall of India private limited.
- [107] Manning, M. L., & Saddlemire, R. (1996). Developing a sense of community in secondary schools. *National Association of Secondary School Principals, NASSP Bulletin*, 80 (584), 4148.
- [108] Marzano, R. J. (2007). *The art and science of teaching*. Alexandria, VA: ASCD
- [109] Maslow, A. H. (1968). *Toward a psychology of being*. New York: Van Nostrand.
- [110] Mattingly, J.W. (2007). A study of relationships of school climate, school culture, teacher efficacy, teacher job satisfaction and intent to turnover in the context of year-round education calendars. *Dissertation Abstract International*, 68,(10).
- [111] MHRD (2009). *Framework for implementation of RMSA*. New Delhi: Government of India, Department of School Education and Literacy.
- [112] Ministry of Education Government of India. (1962). *The report of the University Education Commission*. Retrieved on October 2016 from <http://www.academicsindia.com/Radhakrishnan%20Commission%20Report%20of%20194849.pdf>
- [113] Ministry of Education. (1953): *Report of the secondary education commission Mudaliar commission report Oct 1952-june 1953*. GOI, New Delhi.
- [114] Modi, D.J. (2013). Effect of creativity appreciation training programme (CATP) on the teachers attitudes towards creative teaching and learning. *International Journal for Research in Education* 2 (7).
- [115] Moos, R. H. (1979). *Evaluating educational environments: Procedures, measures, findings and policy implications*. San Francisco: Jossey-Bass.
- [116] Motulsky, H. (2007). *PRISM Program: Statistics Guide*. Retrieved on 8/12/ 2013 from <http://graphpad.com/help/prism5/prism5help.htm>.
- [117] Murdock M. C. & Mathers, S. K. (2008). *Teaching and Learning Creatively with the Torrance Incubation Model: A Research and Practice Update*. *International Journal of Creativity & Problem Solving*, 18 (2), 11-13.
- [118] Nahn, M. (1956). *The artist as creator* Baltimore. USA: Johns Hopkins University Press.
- [119] NCERT (1978). *Teacher Education Curriculum: A framework Prepared for National Council for Teacher Education*, New Delhi: NCERT Publication.
- [120] NCERT (1997). *Fifth Survey of Research in Education, (1988-1992) Research Abstracts, Volume-II*, New Delhi: National Council for Educational Research and Training.
- [121] NCF (2005). *National Curriculum Framework*. New Delhi: NCERT Publication.
- [122] NCTE (2007). *Curriculum Framework: Teacher Education for a Knowledge Society (Draft)*, New Delhi: NCERT Publication.
- [123] NCTE (2009). *National Curriculum Framework for Teacher Education*. New Delhi: NCTE Publication.
- [124] NCTE (2009b). *National Curriculum Framework for Teacher Education: Towards Preparing Professional and Humane teacher*. New Delhi: NCTE Publication.
- [125] Newcomb, T. M. (1950). *Social Psychology*. New York: Dryden.
- [126] Ng, A. and Hor, K. K. (2005). Teaching attitudes, emotional intelligence and creativity of school teachers in Singapore. *Educational research Journal*, 20(2), 207-220.
- [127] Nitkowski, K. (2004). *Documenting the Teacher's Experience with the Use of the Torrance Incubation Model for Creative Learning and Teaching*. Unpublished Masters Project.
- [128] Norton, M. Scott. (2008). *Human resources administration for educational leaders*. Thousand Oaks, CA: Sage.
- [129] Nwankwo, J. I. (1979). The school climate as a factor in students' conflict in Nigeria. *Educational Studies*, 10, 267-279.
- [130] O'Donoghue, T. (2007). *Planning your qualitative research project: An introduction to interpretivist research in education*. Oxon: Routledge.
- [131] Ochse, R. (1990). *Before the gates of excellence: The determinants of creative genius*. Cambridge University Press.
- [132] Oluwatayo, J. A. (2012). Validity and reliability issues in educational research. *Journal of Educational and Social Research*, 2 (2), 55- 64.
- [133] Onen, A. S. and Kocak, C. (2013). Exploratory and confirmatory factor analysis study for the scale of attitude towards chemistry homework. *African Journal of Educational Research*, 6, 44-60.
- [134] Osborn, A. (1953). *Applied imagination: Principles and procedures of creative thinking*. New York: Scribner.
- [135] Passi, B.K. (1989). What research says to classroom teachers. *Developing creative thinking workshop organized by Navodaya Vidyalaya Samiti, New Delhi and Devi Ahilya Vishwavidyalaya, Indore*, pp. 1-13.
- [136] Patton, M. (1987). *How to use qualitative methods in evaluation*. London: Sage Publications.
- [137] Rehm, M. (1989). Factors affecting creativity: perspectives from home economic teachers and students' teachers. *Journal on vocational home economic education*, 7, (2), 13- 27.
- [138] Rogers, C. R. (1954). *Towards a theory of creativity*. ETC: *A Review of General Semantics* 11, 249-260.
- [139] Rothenberg, A. (1990). *Creativity and madness*. Baltimore, MD: Johns Hopkins University Press.

- [140] Rothenberg, A., & Hausman C. R. (Eds.) (1976). *The creativity questions*. Durham, NC: Duke University Press.
- [141] Roy, M. (2004). *To study the effect of creativity Appreciation training programme (CATP) on the teachers' attitude towards creative teaching and learning*. Ph.D. thesis (Education), Nagaland University, Kohima.
- [142] Runco, M. A. (1986). Divergent thinking and creative performance in gifted and nongifted children. *Educational and Psychological Measurement*, 46, 375-384.
- [143] Sarsani, M. R. (2006). *Creativity in schools*. Sarup & Sons, New Delhi. SAS. (2011). *JMP Statistics and Graphics Guide*. Retrieved on 19/1/2015 from www.sas.institute.com.
- [144] Schneider, S.H., & Duran, L. (2010). School climate in middle schools: A cultural perspective. *Journal of Research in Character Education*, 8(2), 25-37.
- [145] Scott, C. (1999). Teachers biases toward creative children. *Creativity Research Journal*, 12(4), 321-328.
- [146] Shochet, I.M., Dadds, M.R., Ham, D., & Montague, R. (2006). School connectedness is an underemphasized parameter in adolescent mental health: Results of a community prediction study. *Journal of Clinical Child & Adolescent Psychology*, 35, 170-179.
- [147] Short, P. M., & Rinehart, J. S. (1992). School Participant Empowerment Scale: Assessment of level of empowerment within school environment. *Educational and Psychological Measurement*, 52, 951-960.
- [148] Shukla, R. P. (2008). *Attitude Scale of creative Teaching (ASCT)*. Agra Psychological Cooperation, Agra.
- [149] Siew, N.M. (2013). Exploring primary science teacher's creativity and attitudes through responses to creative questions in university physics lesson. *British Journal of Education, Society & Behavioural Science*, 3(1), 93-108.
- [150] Simonton, D. K. (1994). *Greatness: Who makes history and why?* NY: Guilford.
- [151] Simonton, D.K. (1984). *Genius, creativity and leadership*. USA, Cambridge University Press.
- [152] Simonton, D.K. (1988). Creativity, leadership and chance. In Sternberg (1988). *The nature of creativity*, 386-426.
- [153] Singer, J. L. (1982). Towards the scientific study of imagination. *Imagination, Cognition and Personality*, 1, 5-28.
- [154] Singh S., & Kaur, R. (2012). Classroom Teaching: A Vital Tool for Fostering Creativity among the Students. *Journal of Educational & Psychological Research*, 2 (1).
- [155] Singh, Y. K. (2006). *Fundamental of research methodology and statistics*. New Delhi: New age international limited publishers.
- [156] Slone, K.D. (1985). Home influence on talent development. In B.S. Bloom (ed.). *Developing talent in young people*. pp. 439-476.
- [157] Smith, M. B., Bruner, J. S. and White, R. W. (1956). *Opinions and personality*. New York: John Wiley and Sons.
- [158] Sternberg, R. J. (1986). *Intelligence applied: Understanding and increasing your intellectual skills*. San Diego: Harcourt, Brace, Jovanovich.
- [159] Sternberg, R. J., & Lubart, T. I. (1991). An investment theory of creativity and its development. *Human Development*, 34, 1-32.
- [160] Sternberg, R. J. (Ed.). (1999). *Handbook of Creativity*. Cambridge. UK: Cambridge University Press.
- [161] Sternberg, R. J. & Lubart, T. I. (1992). Buy low and sell high: An investment approach to creativity. *Current Directions in Psychological Science*, 1, 1-5.
- [162] Sternberg, R. J. (1997a). The concept of intelligence and its role in lifelong learning and success. *American Psychologist*, 52, 1030-1037.
- [163] Sternberg, R. J. (2006). Creativity is a habit. *Education Week*, 25(24), 47-64.
- [164] Sternberg, R. J. (2012). The assessment of creativity: An investment-based approach. *Creativity Research Journal*, 24 (1), 3-12.
- [165] Sternberg, R. J., & Lubart, T. I. (1995). *Defying the crowd: Cultivating creativity in a culture of conformity*. New York: Free Press.
- [166] Sternberg, R. J., & Lubart, T. I. (1996). Investing in creativity. *American Psychologist*, 51(7), 677-688.
- [167] Stricker, D. R. (2008). *Perceptions of creativity in art, music and technology education* Unpublished doctoral dissertation, University of Minnesota.
- [168] Sutherland, F. (1994). *Teacher's perceptions of school climate*. Chicago State University. ERIC Document Reproduction Service no. ED 379214.
- [169] Tagiuri, R. (1968). *The Concept of Organizational Climate*: In Tagiuri, R. and Litwin, G. W. (eds.). *Organizational Climate: Exploration of a Concept*. Boston. Harvard University.
- [170] Tan, A.G., & Majid, D. (2011). Teachers' perceptions of creativity and happiness: a perspective from Singapore. *Procedia Social and Behavioural Sciences*. 15, 173-180
- [171] Taylor, D. J., & Tashakkori, A. (1995). Decision participation and school climate as predictors of job satisfaction and teacher's sense of efficacy. *Journal of Experimental Education*, 63 (3), 217-227.
- [172] Tesser, A. And Shaffer, D. R. (1990). Attitudes and attitude change. *Annual Review of Psychology* (41), 479-523.
- [173] Thapa, A., Cohen, J., D'Alessandro, A.H., & Guffey, S. (2012). *School Climate Research Summary: August 2012*. School Climate Brief, (3) National School Climate Center, New York, Retrieved on July 2013 from <https://www.schoolclimate.org/climate/documents/policy/sc-brief-v3.pdf>

- [174] Thurstone, L. L. (1946). *The measurement of attitude*. Chicago University, Chicago Press.
- [175] Torrance, E. P. & Safter, H. T. (1999). *Making the creative leap beyond*. Buffalo, NY: Creative Education Foundation.
- [176] Torrance, E. P. (1965). *Rewarding creative behaviour*. Englewood Cliffs, NJ: Prentice Hall.
- [177] Torrance, E. P. (1966). *The Torrance tests of creative thinking*. Princeton, NJ: Personnel Press.
- [178] Sternberg (Ed.). *The nature of creativity: Contemporary Psychological Perspectives*. Cambridge: Cambridge University Press, 43-47.
- [179] Tripathi, S. N. & Shukla, M. (1990). *Development of instructional material for promoting creativity and its effectiveness*. Independent study, Bhopal: Regional college of education. Cited in M. B. Buch *Fifth Survey of Educational Research*, Vol. I, NCERT, New Delhi, pp. 189-192.
- [180] True, S. (1966). A study of the relation of general semantics and creativity. *The Journal of Experimental Education*, 34 (3), 34-40 Retrieved on October 2015 from <http://www.jstor.org/stable/20156824>
- [181] Ullman, J. B. (2006). *Structural Equation Modelling: Reviewing the Basics and Moving Forward*. *Journal of Personality Assessment*, 87 (1), 35-50.
- [182] UNESCO (1991, 1993, 1995). *World Education Report*. Oxford: UNESCO Publishing. Retrieved on December 2014 from www.unesco.org/education/information/wer.../wholewer.PDF-France.
- [183] Vernon, P.E. (Ed.). (1970). *Creativity: Selected readings*. Baltimore, UK, MD: Penguin.
- [184] Wallas, G. (1926). *The art of thought*. London, UK: Butler & Tanner, Ltd.
- [185] Walters, B. (2015). *School Climate Survey*. Retrieved on August 2015 from <https://www.glsen.org/article/2015-national-school-climate-survey>
- [186] Wang A. Y. (2011). "Contexts of Creative Thinking: A Comparison on Creative Performance of Student Teachers in Taiwan and the United States". *Journal of International and Cross-Cultural Studies*, 2 (1).
- [187] Ward, T. B., Smith, S. M., & Finke, R. A. (1999). *Creativity the self and the environment*. In R. J. Sternberg (ed.), *Handbook of Creativity*, (pp.189-212). New York: Cambridge University Press.
- [188] Webster, J., & Watson, R. T. (2002). *Analysing the past to prepare for the future: Writing a literature review*. *MIS Quarterly*, 26(2), 13-23.
- [189] Weisberg, R. W. (2006). *Creativity: Understanding Innovation in Problem Solving, Science, Invention and the Arts*. New York, John Wiley & Sons.
- [190] Weisberg, R.W. (1993). *Creativity: Beyond the myth of genius*. New York: Freeman.
- [191] Weisberg, R.W. (1986). *Creativity, genius and other myths*. New York: Freeman.
- [192] West, C. A. (1985). *Effects of school climate and school social structure on student academic achievement in selected urban elementary schools*. *Journal of Negro Education*, 54, 451-461.
- [193] Woolfolk, A. (2006). *Educational Psychology (9th Ed.)*. South Asia: Pearson Education Inc. and Dorling Kindersley Pvt Ltd.
- [194] Zaidi, S. M. I. A., Biswal, K., Mohanty, N. K., & Lal, A. A. C. (2011). *Secondary Education: Planning and Appraisal Manual*. Retrieved on October from [http://mhrd.gov.in/sites/upload_files/mhrd/files/upload_document/Planning%20And%20Appraisal%20Manual%20\(%20NUEPA\).pdf](http://mhrd.gov.in/sites/upload_files/mhrd/files/upload_document/Planning%20And%20Appraisal%20Manual%20(%20NUEPA).pdf)
- [195] Zhang, L. F., & Sternberg, R. J. (2006). *The nature of intellectual styles*. Mahwah, NJ: Lawrence Erlbaum Associates.