ACCELERATION OF CREATIVITY AMONG ACADEMICALLY BRIGHT RURAL ADOLESCENTS

BY

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CERTIFICATE – I

This is to certify that this thesis entitled, **"Acceleration of Creativity among Academically Bright Rural Adolescents",** submitted for the degree of **Doctor of Philosophy,** in the subject of **Human Development and Family Studies** to the CCS Haryana Agricultural University, is a bonafide research work carried out by **Sumit Sheoran (Admn. 2017HS8D)** under my supervision and that no part of this dissertation has been submitted for any other degree.

The assistance and help received during the course of investigation have been fully acknowledged.

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CERTIFICATE – II

This is to certify that this thesis entitled**, "Acceleration of Creativity among Academically Bright Rural Adolescents",** submitted by **Sumit Sheoran (Admn. 2017HS8D)** to the CCS Haryana Agricultural University in partial fulfillment of the requirements for the degree of **Doctor of Philosophy,** in the subject of **Human Development and Family Studies,** has been approved by the Student's Advisory Committee after an oral examination on the same in collaboration with an External Examiner.

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER -I

INTRODUCTION

Academic achievement of rural adolescents has been affected with the availability of limited resources, less opportunities, lack of the educational experiences, extracurricular activity and role model in their community (Arnold *et al.*, 2005, Bouck, 2004). Academic achievement and creative thinking was depending upon social awareness. Academic achievement can be defined as excellence in all academic disciplines, in class as well as extracurricular skills, punctuality, assertiveness, arts, culture and the like.

Adolescence refers to the period marking the transition from childhood to adulthood. The developmental transitions during adolescence require shared reorganization of the individual in the context of influencing their cognition and relationships (Lerner and Castellino, 2002).The most commonly used chronologic definition of adolescence includes the ages of 10-18, but may incorporate a span of 9 to 26 years depending on the source (Curtis, 2015).Adolescence is a distinct phase of the developmental life cycle in humans and other animal species (Spear, 2000).

Psychologist and educationist have found adolescence is the most creative age. Adolescents are developing identity, relationships and exploring creativity as a necessary skill for education in the adolescent years (Espinosa, 2010). Young adolescence is one of the crucial stages of developmental changes that coupled with the consequences for adolescent's academic outcomes. Teacher involvement promotes adolescents' school success and do foster social relationships at the middle level (Davis, 2006).

Creativity is an internal strength for creation of original ideas that incorporates thinking and intellectual abilities normally predict academic success (Torrance *et al.*, 2008). May (2007) has defined it as a process by which a person can bring something new into existence. It boosts our consciousness and explores our veiled talent. Researchers through a significant amount of research have recognized creativity as an essential quality in solving complex individual, social, and even global problems. Every person is creative but the level of creativity varies from person to person in a wide variety of ways.

In fact creativity is a probable variable which influences human performance in almost all areas, whether it is scientific, artistic or dramatics and so on. It may be articulated in scientific discoveries on one hand and in literary writings, poetry, musical compositions, paintings and sculpture on the other. Thus, creative personalities contribute significantly not only in the enrichment of knowledge, but also to augment culture. Creativity is not fixed and static in nature but something that keeps changing overtime (Akinboye, 2003). In ancient times, persons were labeled as "creative" someone who had formed a renowned work in the

areas such as painting, fine arts, a sculpture, and composing etc. Gradually, this perception was inflated to incorporate inventors who might bring forward novel products in almost any fields of human endeavor.

Historically, creativity was endorsed towards divine source of energy and was phrased as "spark of genius". However, now a days it is accredited to psychic well being of individuals. Creativity always has been acknowledged as a valuable foundation of advent, progress and survival of man's civilization through ages (Trivedi and Bhargwa, 2010). Most of the advancements and changes in society as well as in other areas dictate the story of man's endeavor to create. Most progressive field of artificial intelligence is merely an example of human creativity. Super-fast computers are also one of such technological milestones achieved by human race. These are the computers which can process the information at the speed of light and perform various tasks at relatively very high speed. These also have drawbacks such as they can only reiterate the mechanical orientations but cannot create unique and new concepts, as they are not designed as human mind to generate new and innovative ideas. So, it becomes necessary to be careful while elaborating creativity and comparing it from other similar cognitive functions. Human brain plays keen role in the creative ability of every human being. Goldberg (2018) renowned neuroscientist in his book named "Creativity: The Human Brain in the Age of Innovation" described that creativity has various aspects: humanitarian, socio-cultural, psychological, cognitive, evolutionary and pathological. Further, the book discusses about the functional specialization of the two brain hemispheres (i.e., left and right) in relation to human creativity. Along with this the book provides very detailed facts and evidences to prove the cooperation of both hemispheres in the development of creativity.

In the case of adolescence, the implication of development and utilization of divergent thinking is extremely high because it is during this time they flourish out with their cognitive field and the progress of their operational thinking (Henderson, 2003). Significant brain development continues including progressive increased in practice and experience with emotional expression. It was noted that increasing value children's perspectives, seeing children as active agents in constructing and communicating their own realities (Steinberg, 2005, Schelbe *et al.*, 2015).

Muller-Riemenschneider *et al.* (2018) drew attention to the importance of improving conditions for healthy forms of recreation for rural adolescents to avoid boredom and involvement in activities that may not be safe or healthy. Once they initiate to think rationally and logically, the significance of divergent thinking also increases, this impending creativity of adolescents is taken as an additional cognitive competence like intellect and is need to be functionalized through creative activities like original, flexible and original contributions (Szobiova, 2014).

Many researchers assume that people are creative, but their degree of creativity is different (Beghetto and Kauffman, 2009; Craft, 2003, Siswono, 2010, Siswono, 2011). Therefore, creativity in education is not only essential but vital in promoting students' opportunity to extend their knowledge and give them the chance and possibility to create new ideas (Louca *et al.,* 2014). The capacity to think creatively is influenced by many environmental factors, task itself and the teacher. Although the creativity is spontaneous in nature, many investigators have emphasized that teachers may play a very relevant role in the stimulation of such creative processes by channelizing students' energy in a proper guided way.

Standard intelligence tests only work better for convergent thinkers and they do not favor divergent thinking. In particular, the most creative people may score lower on a standard Intelligence Quotient test due to their approach to the problems, which generates a larger number of possible solutions, some of which are original. Whereas, academically bright students or Academically or Intellectually Gifted (AIG) have the potential to perform substantially high levels of accomplishment when compared with their age mates. These abilities can also be enhanced and altered by various acceleration programs. Here, acceleration "refers to richer and more diverse educational practices, a curriculum that is modified toserve greater depth and breadth than it is generally ought to provide" (Davis, 2006). Acceleration programs may comprise within-class talent groups, special lessons in and outside of schools, specialized schools, after-school activities, and Saturday (or any specified week day) as well as summer enrichment programs. Such special programs are expected to expand classroom activities and curriculum, and to embrace more material, hands on activities and information that is not included in regular classroom study (Piirto, 2019).

There are ample of research supports showing that, when the acceleration program was well-designed and monitored, accelerated students experienced both academic success and social acceptance by their classmates and society. However, it is crucial to ensure that an adolescent who is being considered for acceleration is intellectually, academically, socially and emotionally self motivated to work with researcher on a more demanding curriculum. It is also essential that both the students and teachers have a positive attitude towards the process. But, teachers extravagance of such talented children as abnormal and restrain their inborn talents. Instead of appreciating and fostering, they consider such children as 'problematic' and impose more restrictions on such children. This ignorance forces youngsters to divert their creativity towards negative realms. Therefore it becomes the moral duty of their teachers to spot such students and persuade them to channelize their flair for a good cause, which will be beneficial to the mankind in future. This can be possible, only if the creative talents of the youngsters are acknowledged, encouraged and sustained with more rational and progressive techniques (Anwar *et al.,* 2012). Along with this considerable reshaping of school curricular and co-curricular programmes is also equally important to foster creative talents among

children. The basic goals and objectives of education in our country (both at the national and the state levels) as a whole have to be re-amended and all necessary efforts should be taken to achieve these goals. Bringing fundamental changes in the creativity of children can impact our society and nation in a significant way. Therefore, it is necessary to understand and identify the incubators of creativity and the degree of their effectiveness in the overall mechanism of school and home environment that are most determinant factors in shaping the creativity of students.

Keeping in view the importance of the above facts, the present study was conducted with following objectives:

- To identify academically bright rural young adolescents
- To assess the creativity of selected bright adolescents
- To implement and assess the impact of acceleration program
- To delineate influence of socio-personal and economic variables on creativity

CHAPTER -II

REVIEW OF LITERATURE

An attempt has been made here to depict a concise resume of the available literature on the concern issues relevant to the present study under the following sub-heads:

2.1 Creativity among academically bright adolescents

2.2 Assessing the impact of intervention programmes on adolescents' creativity

2.3 Influence of socio-personal and economic variables on creativity

2.1 Creativity among academically bright adolescents

Charyton *et al.* (2011) scrutinized gender similarities and differences in relation to their level of creativity. Results presented that both males and females tend to have similar levels of creativity, yet the most frequently appreciated creative renowned persons tended to be males.

Siddiqi (2011) planned study to assess the role of gender in creative abilities of the students. Study results stated that boys do not differ significantly in all the factors of verbal creativity, except for the measures of originality from girls.

Wu (2011) studied developmental patterns of divergent thinking among primary to senior school students. Significant gender differences were observed among flexibility, original creativity and titling capacity of respondents. There were no gender differences portrayed for the components of fluency, openness and elaboration. Gender was found to be playing a major role in divergent thinking of the respondents.

Anwar *et al.* (2012) selected a sample of 208 secondary school students to measure the creative thinking potential. Then, the sample was divided into two groups' i.e. high achievers and low achievers. Research results divulged that there was no significant difference between high achievers and low achievers in terms of their creative thinking. However, girl respondents and the students belonging to urban localities performed better in their creative thinking domain.

Kishor (2012) evaluated the impact of socio demographic factors such as sex, parental education and home environment on creativity of 120 senior secondary school students. It was concluded that there was no significant difference in creativity level with regard to home environment and sex of the respondents. But significant difference was found in creativity with regard to parental education.

Manisha (2012) performed a study on Hindi language creativity of adolescents in relation to their achievement in Hindi. Results of the study revealed that there was positive and significant correlation between Hindi language creativity and in Hindi subject

achievement of Class IX students. It directly means that the students with high scores in Hindi also had high levels of Hindi language creativity.

Tasaduq and Azim (2012) administered a study to find the relationship between school-types and creative abilities of students. The results revealed that the students of both Private and Government School differed significantly in their creative abilities. The variation in the school environment was observed to be the key issue that influenced the creative abilities among Government school children which is due to lack of facilities, opportunities, and encouragement provided by the Government schools.

Rani and Dalal (2013) in their study examined that female students studying in Government senior schools were more creative as compared to the male students. They also revealed that there was positive correlation between the levels of intelligence and creativity of adolescents. This positive correlation means that with increase in intelligence levels of students, the creativity levels also increased and vice-versa.

Tunde (2013) explicated in his study on 210 students of Higher Secondary School that more than half of the students had high level of creativity while the remaining students possessed low level of creativity.

Vaida (2013) assessed the creativity levels of students studying in private and government schools of Kashmir Valley. The results divulged that the majority of the students were falling in the domain of moderately creative. Gender was established to have a negative correlation with the creativity levels of the students. While creativity scores differed significantly among students of private and government schools.

Roue (2014) examined gender - based differences in school-going young adolescent's divergent thinking. A survey instrument specially designed to measure divergent thinking was administered to 8^{th} and 9^{th} graders in the schools of mid-western United States. Results revealed that there were no differences between girls and boys on measures of divergent thinking including fluency, flexibility, and originality.

Sharma (2014) conducted a research study on government and private school students of Chandigarh city. The research findings revealed that government school students had higher creativity as compared to private school students. The mean scores also illustrated that the girl students compared to boy students possessed higher levels of creativity. Further, results portrayed that the creative stimulation, cognitive environment and productive school environment shapes the creativity of school children to a certain degree.

Sumangala (2014) in her study presented that creativity and academic achievement were positively and significantly associated among boys and girls studying in IX standard. Results also stated that boys scored higher on various dimensions of creativity i.e., flexibility, fluency, originality and elaboration than girls. Gender of the respondents was found to affect creativity of the students.

Wasake (2014) examined significant differences between the creativity of male and female students of senior secondary schools with low academic achievement on total creativity. There were also significant differences observed on flexibility, fluency and elaboration dimensions where as insignificant difference was revealed on originality dimension. However, no significant difference existed between the creativity of male and female students with high academic achievement.

Dhingra and Sharma (2015) elucidated that both boys and girls presented a declining trend in mean scores of expressional fluency, associational fluency, originality, adaptive flexibility and elaboration component with an increase in their academic grades. It was also concluded that girls scored higher on the various components of ideational fluency, word fluency, associational fluency, spontaneous flexibility, and elaboration in contrast to boys across academic grades. Statistically, no differences were observed on creativity scores of the students of all the three academic classes.

Reddy *et al.* (2015) examined that there was significant impact of residential location, gender and educational class of study on non-verbal creativity level of high school students. The study further revealed that boys scored higher in their non-verbal creativity level as compared to girls and also adolescents belonging to urban localities secured higher as compared to those belonging to rural areas. The study also stated that there was a positive and significant correlation between age and non-verbal creativity of adolescents.

Rana (2016) in their research examined that the overall creativity was highest among CBSE and ICSE board students while HBSE students possessed high level of originality. The research study highlighted that adolescents' home environment partially manipulates their overall creativity. School environment was also found to be a keen factor in determining the level of creativity among adolescents.

Singh and Rana (2016) revealed that creativity was highest among CBSE (Central Board of Secondary Education) and ICSE (Indian Certificate of Secondary Education) board students while HBSE (Haryana Board of Secondary Education) students had high level of originality. The study highlighted that emotional intelligence and home environment of children partially influenced creativity of adolescents. School environment was observed as a significant factor in determining the level of creativity among adolescents.

Kumari *et al.* (2018) studied creative thinking ability among High School students in the age group of 13-16 years. The findings of the study stated that majority of respondents showed high level of creative thinking ability. There was no influence of age, gender and type of school on creative thinking ability of children.

Turkey (2018) studied the level of creative thinking skills among gifted and ordinary students. Results indicated that the level of creative thinking skills among all participants was

on "average"/medium, but “means” of results were higher in favor of the gifted students in all creative thinking skills (fluency, flexibility, originality).

Awamleh *et al.* (2019) planned a study to identify the level of flexibility, originality, elaboration, originality among students and to explore the differences in these levels attributable to the independent variables i.e., gender, age, grade point average (GPA). The study signified that most creative thinking skills (flexibility, fluency and elaboration) attained a medium rank while originality was at a low rank. The significant differences in the dimensions of flexibility and fluency accredited to gender in support of females. Further, significant differences were observed between the students’ creativity levels due to the variables of age. In addition, the researchers obtained significant differences for the creativity levels on the test dimensions for the variable GPA in support for those of GPA (70-85, and 85 and above).

2.2 Assessing the impact of intervention programmes on adolescents’ creativity

Garaigordobil (2014) presented the results of a play program designed for stimulating creativity in children. Findings of the study suggested a positive effect of the intervention, as the experimental participants significantly increased their verbal creativity and graphic–figural creativity. The program produced a significantly greater change in the experimental participants who showed a low level of creativity before the intervention including boys and girls.

Garaigordobil and Berrueco (2014) conducted a study to evaluate the effects of a play program in the creative thinking of school children. The study used a repeated measures experimental pretest-post test design with control groups. Research results stated that the program significantly increased the students’ graphic creativity (elaboration, fluency, originality), verbal creativity (fluency, flexibility, originality), and imbibed behaviors and traits of creative personality among children.

Taneri (2014) examined the role of parents and home environment in enhancing children’s creative thinking abilities. The pre test results specified that there were no differences between both parental groups according to their knowledge about the creative thinking. According to post test outcomes, the awareness levels of parents in the experimental group improved. However, the awareness levels of the parents in the controlled group remained alike. Along with this, parents in experimental group rather than controlled group parents had more knowledge about creating creative home environments that can enhance creativity.

Another study was organized by Valentini *et al.* (2014) to study the outcomes of motor activities on the development of children's self-esteem and divergent thinking by using an experimental design. The results portrayed that there were significant differences in mean scores of experimental group students as compared to the students of controlled group.

Karkockiene (2015) calculated an acceleration program's effectiveness on enhancing student's creative flexibility, fluency, and originality. After the successful completion of acceleration program schedule, findings confirmed that participants' creative flexibility, fluency and originality improved significantly along with one's own ability to assess creative ideas.

Khawaldeha and Alib (2016) studied the effect of acceleration program on creative thinking among gifted and talented students. The findings showed significant effect of the program on creative thinking and also recommended educators to promote creative thinking through the use of such programs.

Al Aqeel *et al*. (2018) planned a study to identify the effect of recommended enrichment and scientific activities in creative thinking improvement towards gifted students of seventh grade. The results demonstrated that there were significant differences in mean scores of pilot group students. Further, the results ensured that the enrichment and scientific activities were effective in creative thinking and skills acquisition.

On the other hand, in the study of Majid and Fatemah (2018) which was implemented on the sample of 60 adolescents, revealed that the experimental group did not show any significant enhancement in creative writing skills. Thus, when such enrichment programs are applied it does not necessarily lead in students' opportunity to engage in creative thinking by providing them efficient motivation.

Gupta (2019) planned a study to evaluate the influence of creativity training programme (CTP) on eighth grade children. Findings of the study revealed that CTP was successful in enhancing various creative thinking abilities in students. The students of the treatment cluster had significantly higher mean scores for every component of verbal creativity (verbal flexibility, fluency and originality) and non verbal creativity (non verbal elaboration and originality) than the students of the non treatment cluster.

Tsai (2019) observed the probable benefits of play activities on divergent thinking of young adolescent learners. In reverence to ideas generation, the results didn't demonstrate significant differences between experimental and controlled groups. With regard to originality, significant differences were observed between the two groups. The respondents perceived play intervention as constructing more unique and creative ideas than the control group.

2.3 Influence of socio-personal and economic variables on creativity

Chaudhary (2011) emphasized that the creative students who achieved higher on creativity measures, also scored higher on the academic achievement scores and vice versa. On the other hand no significant association was revealed between these two variables among the less-creative students.

Narula (2011) in her research on a sample of 700 young adolescents of ninth class studying in the senior secondary schools of Punjab state portrayed significant positive

correlation between the variables of academic achievement and creativity. Significant differences were also found between the creativity of boys and girls studying in the same class.

Palaniappan (2011) planned a study to examine the relationship between creativity and academic achievement of 497 Malaysian students. The research results signified that there was positive correlation between academic achievement and creative thinking.

Sinha (2011) organized a study on language creativity of state and central board's school students. It was concluded that there was no significant variation in language creativity of students studying in both school boards. It was also found that the type of school environment had no influence on the language creativity of the students.

Alam (2012) examined a representative sample of 400 students studying in IX standard from two districts of Bihar. The findings revealed that there was a significant positive relationship between creativity and academic achievement. Along with that there was positive correlation between creativity and socio-economic status of the students.

Clark (2012) examined the impact of school and home climate on creativity of children. Results of the study presented that creative thinking seemed to be inhibited due to peer pressure, school deadlines, supervisory restrictions, evaluation and reward structures provided both at school and home.

Garg and Agarwaal (2012) organized a study to find the adolescents' creative thinking and its relationship to their psychosocial environment. Results showed that some dimensions of home environment like social isolation and deprivation of privileges had negative relationship with the adolescents' creative thinking where as other variables such as, reward and protectiveness had positive relationship.

Harris and Goodall (2012) concluded that a highly creative individual belongs to the homes where special kind of creative environment was provided as the creatively designed and planned home environment activities facilitates the emergence of creative thinking among children at an early age.

Horng and Lee (2012) investigated the extrinsic environmental factors that affect the development of culinary creativity among culinary artists. Results portrayed that there was direct relationship between the creativity of culinary artists and the quality of their environment. Therefore it is important to expand and maintain creativity favoring social, physical, cultural and educational atmosphere that is conducive to creativity.

Qaisy and Turki (2012) studied adolescent's creativity with regard to their self-concept and achievement motivation. The results indicated that achievement motivation and self-concept of highly creative adolescents were also high. Self- concept and achievement motivation of less creative adolescents were found to be less than average.

Bouchard (2013) in his study explored that siblings reared together in the same home environment had similar Intelligence Quotient's (IQ) and creativity level than those of adopted children raised together in the same environment.

Lew and Cho (2013) planned a study to determine the relationship among creativity, creative home environment, intrinsic motivation and extrinsic motivation. The results of the study were as follows: firstly, there was significant positive relationship between the intrinsic motivation and the creative personality of the young adolescents. Secondly, there was significant relationship between the creative thinking ability and the creative home environment of the adolescents.

Mankar *et al.* (2013) scrutinized creativity in children as a function of parental occupation and their socio-economic status. Results indicated that occupation of parents and the socio-economic status were having negative correlation with the creativity of children. It means that there was no influence of parents' occupation on their children's creativity.

Nadeem and Wani (2013) organized a study to evaluate personality structure and creativity potential of academically gifted male and female adolescents. The research findings revealed that female students were more creative and possessed better personality characteristics than male students.

Rao and Satyapal (2013) conducted a study to find the impact of socio-economic status of scheduled caste (SC) students' on their language creativity. The research results revealed that the flexibility aspect of language creativity of SC students was exaggerated by their gender, place of living, type of family and mother's occupation.

Sanchez- Ruiz *et al.* (2013) investigated the association between creativity indicators such as: creative personality (CP), divergent thinking (DT), personality (Big Five), cognitive ability and emotional intelligence (EI). Cognitive ability was observed to have little relationship with either index of creativity. In contrast, strong relationships were portrayed between the remaining variables and creativity.

Szilvia (2013) observed the creative climate at school as a means to promote creativity among students in the classroom. The research results emphasized that individual creative qualities cannot develop without a supportive environment, and environmental variables may activate and even increase personal creative skills.

Verma (2013) conducted a study to predict the impact of home and school environment on language creativity of children. The government schools were found to be providing greater creative stimulation to their students as compared to other students those studying in the private schools. Further, study revealed that adolescents having rich home environment were found to be higher on their language creativity levels as compared to the others belonging to poor home environment.

Walia (2013) elucidated that there was significant association between mathematical creativity and scores achieved in mathematics by eighth grade students. In general, gender does not influence the mathematical creativity and achievement in mathematics. However, girl students performed better than boys in one dimension of mathematical creativity i.e. flexibility.

Cole *et al.* (2014) evaluated that the intentional development of positive student teacher relationship, the de-emphasis of grading, the overt instruction of creative techniques, the encouragement of subject selection, multiple perspectives in school activities and assignments all encouraged students in their creative endeavors.

Aqil and Ahamad (2015) conducted study with the objective to study the creativity and achievement motivation of adolescents in relation to their mothers' profession. The results showed that there was no significant difference between male and female students on creativity and achievement motivation. Similar result was found in working and non-working mothers' children on creativity and achievement motivation. It meant that mothers' profession had no impact on students' creativity and academic motivation.

Budsankom *et al.* (2015) confirmed that classroom environment, psychological and intellectual characteristics of students had direct effects on creative thinking. Whereas, the family environment had insignificant effects on creative thinking but they had indirect effects on creative thinking through psychological characteristic.

Devi (2015) planned a research study to evaluate creative thinking of secondary school children in relation to school environment and parental disciplinary practices. Results of the research study presented positive correlation between parental disciplinary practices and students' creativity. Along with that various factors constituting school climate such as cognitive encouragement, creative stimulation and rejection were observed to be greatly correlated in progress of students' creativity.

Jeenabadi *et al.* (2015) observed the relationship of high school students' creativity with their academic achievement. The results presented that a significantly positive relationship existed between the creativity and academic achievement. Additionally, no significant difference was revealed between male and female students while considering their academic achievement.

Khan and Riwannudin (2015) performed a research study on 300 IX standard students of CBSE schools of Aurangabad city of Uttar Pradesh. The research results revealed that there was significant positive but low and substantial relationship between adolescents' creativity and their achievement motivation. Further, results also stated that there was no significant difference between creativity and achievement motivation of both male and female students.

Lew (2015) disclosed that the students' creativity was significantly correlated with different variables of the home environment such as emotional cohesiveness, economic status,

psychological support and creative intellectual motivation. Therefore, the home environment turned out to be directly related to children' creativity i.e., the adolescents from families that supplemented better environment had a higher creative ability level than those from families with a poorer environment.

Singh and Kaur (2015) conducted a research to observe the personality characteristics of creative students with regard to their gender and socio-economic status. The results indicated that the creative students possessed higher level of achievement motivation and lesser anxiety levels as compared to their low creative counterparts. Socio-economic status and gender of the respondents was found to play an important role in moderating the relationship of creativity with their achievement motivation.

Tehlan (2015) elucidated that girl students were much better than their counterpart boy students on various parameters of creativity, such as, fluency, flexibility and originality. Along with that it was also revealed that the students belonging to creativity-favorable home environment were more creative than their counterpart students belonging to unfavorable home environment. There also existed significant positive relationship between all the three dimensions of creativity with regard to their home environments.

Yadav (2015) carried out a study to find out relation of intelligence and self-concept with different dimensions of creative thinking of adolescents. Results of the study revealed that the intelligence and self-concept of the students affected the creative thinking of the students in a positive way.

Zirak and Ahmadian (2015) in their study on 156 male and female students stated that the relationship between creative thinking and academic achievement of students was found to be positive and significant. Further, the results regarding the association between the components of emotional intelligence and creative thinking portrayed that the relationship between social awareness and fluency with academic achievement were highly significant. The study also unveiled that there were no significant differences between creative thinking patterns of male and female students.

Rose (2016) highlighted the importance of the role of the teachers in shaping the creative attitudes of the students, which in fact have helped the students to achieve the educational goal.

Singh and Beniwal (2016) elucidated that all the sub-aspects of creativity were significantly and positively correlated with intellectual abilities of adolescents. The study further unveiled that home environment was significantly associated with creativity level of the adolescents.

Arya and Maurya (2017) conducted a study at G.B. Pant University campus, Pantnagar to assess association between creativity, academic achievement and intelligence of school children in the age group of 12-16 years. Raw data was evaluated in terms of

frequency and percentage. It was securitized that there was no significant association between creativity, academic achievement and intelligence.

Roke and Kalis (2017) found that both boys and girls with higher creative potential scores in creativity tests also performed above average in school grades. The tendency was also depicted in the grade points of natural sciences and arts as these subjects relate most closely to creativity, although no significant gender differences were established in any of the subjects.

Arora (2018) revealed that creative abilities are pre-requisites for better emotional intelligence. Creativity could be imbibed to children and adolescents by various effective teaching methods and content both at home and school. So, greater emphasis should be laid on improving different aspects of creativity and emotional intelligence at school level.

Baral (2018) conducted research on tenth grade students of Kurukshetra city, with the purpose to compare the differences in their creative abilities across gender and to study the impact of home environment variables on the creativity of the students. The result indicated that there was no significant difference in the creative ability of high school students based on their gender, birth order, number of siblings, nuclear and joint family as a whole. It was also revealed that there was no interaction effect of these variables on the creativity of the students.

CHAPTER -III

MATERIALS AND METHODS

Present chapter encompasses the methods, techniques, tools and procedures adopted for the current study. A method is the systematic plan, employed to organize a study in order to have a meticulous knowledge of the areas which are to be studied and the steps to be followed. The various methodological steps followed in the study have been illustrated along with the relevant details under the following heads and subheads:

3.1 Sample selection and characteristics

- 3.1.1 Locale of the study
- 3.1.2 Selection of schools
- 3.1.3 Selection of respondents

3.1.4 Categorization of respondents as experimental and controlled groups

- 3.1.5 Implementation of acceleration programme and post- testing

3.2 Variables and their measurements

- 3.2.1 Independent variables
- 3.2.2 Dependent variables

3.3 Operationalization of variables and their measurements

- 3.3.1 Independent variables
- 3.3.2 Dependent variables

3.4 Tools of data collection

- 3.4.1 Tools for independent variables
- 3.4.2 Tools for dependent variables

3.5 Data collection

3.6 Statistical analysis of the data

The various methodological steps followed in the study under investigation are depicted below.

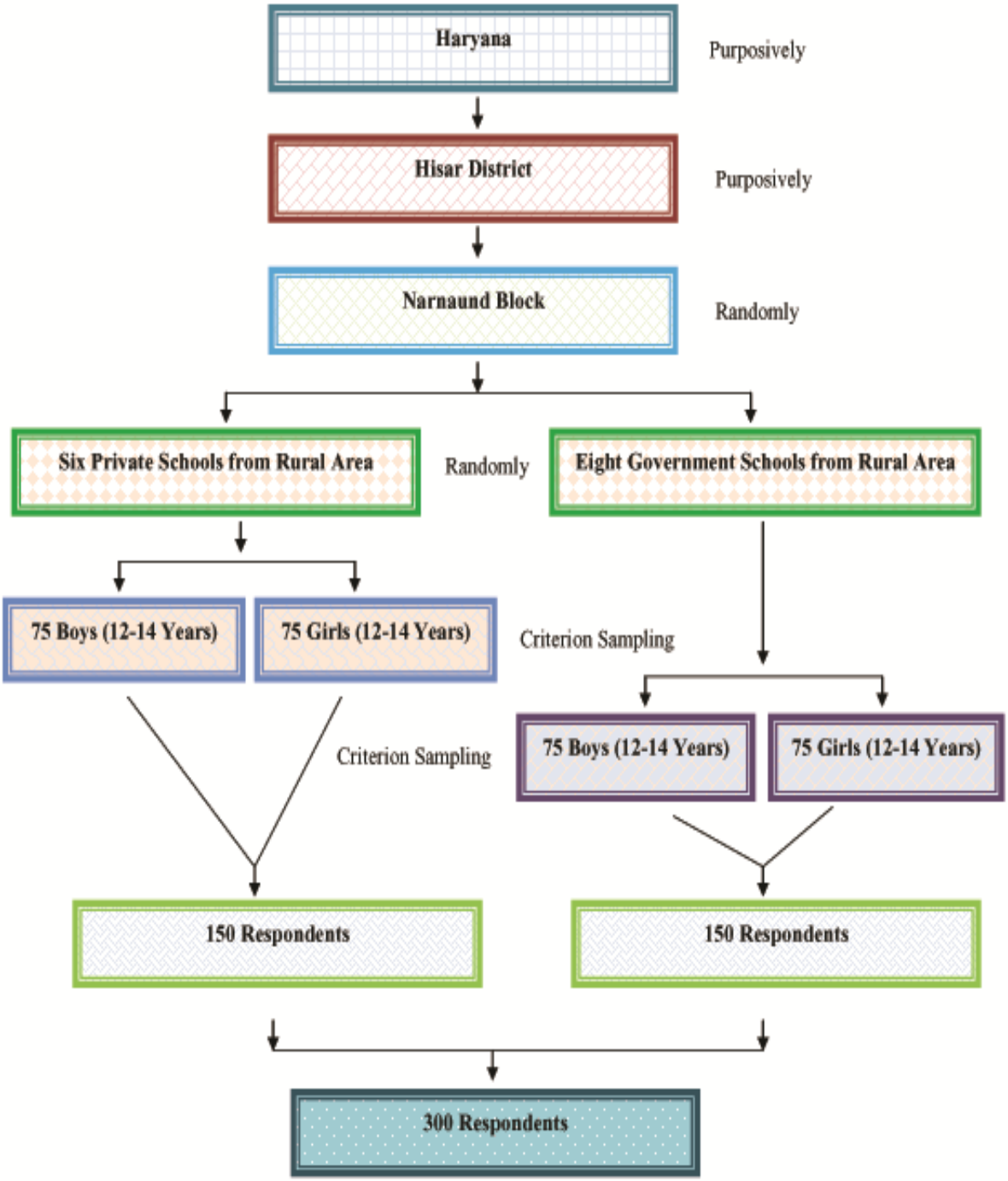

Figure 1: Sampling Procedure for Pre- testing

3.1 Sample Selection and Characteristics

3.1.1 Locale of the study

The study was conducted in the randomly selected Narnaund Block of district Hisar from state Haryana which were purposively selected as there was none of such research conducted till now. The sample was drawn from Government and private schools from 30

villages of Narnaund Block. The purpose behind the selection of schools was that they were running 8^{th}, 9^{th} and 10^{th} classes.

3.1.2 Selection of schools

Eight Government schools (Govt. High School (boys), Kheri Jalab; Govt. Girls Senior Secondary School, Kheri Jalab; Govt. High School, Budana; Govt. High School, Nara; Govt. Senior Secondary School, Lohari Ragho; Govt. Senior Secondary School, Haibatpur; Govt. Senior Secondary School, Koth Khurd and Govt. Senior Secondary School, Rakhi Khas) and six private schools (Swami Vivekanad Senior Secondary School, Kheri Jalab; New Adarsh Senior Secondary School, Lohari Ragho; Arya Senior Secondary School, Haibatpur; Bal Jyoti Senior Secondary School, Budana; Vidya Bharti Day Boarding Public School, Kheri Lohchab and Naurangmal Senior Secondary School, Kapro) from Narnaund Block were selected randomly to meet the required sample size.

3.1.3 Selection of respondents:

A list of enrolled students (young adolescents) in the age group of 12-14 years was procured from all the selected Government and private schools of selected villages of Narnaund Block. Out of the list a sample of 300 academically bright young adolescents those who were scoring more than 85 % and above from the last three consecutive years were taken randomly. Out of these 300 young adolescents, 150 from Govt. schools and 150 from private schools were preferred randomly. Further sample of 150 respondents constituted of 75 girls and 75 boys each from Government and private schools.

3.1.4 Categorization of respondents as experimental and controlled groups

To meet the third objective, total sample of 300 respondents was systematically divided into two equal groups namely experimental and controlled on the basis of their total creativity scores.

3.1.5 Implementation of acceleration programme and post- testing

Self-prepared acceleration programme cum intervention (ANNEXURE-III) was implemented continuously for three months i.e., November, December and January (every Wednesday and Saturday) to the respondents of experimental group. Whereas, the respondents of controlled group were exempted from all such kind of activities provided through this self-prepared acceleration programme. After a gap of 15 days, respondents from of experimental group were post-tested by using self-modified version of Passi Test of Creativity (2006).

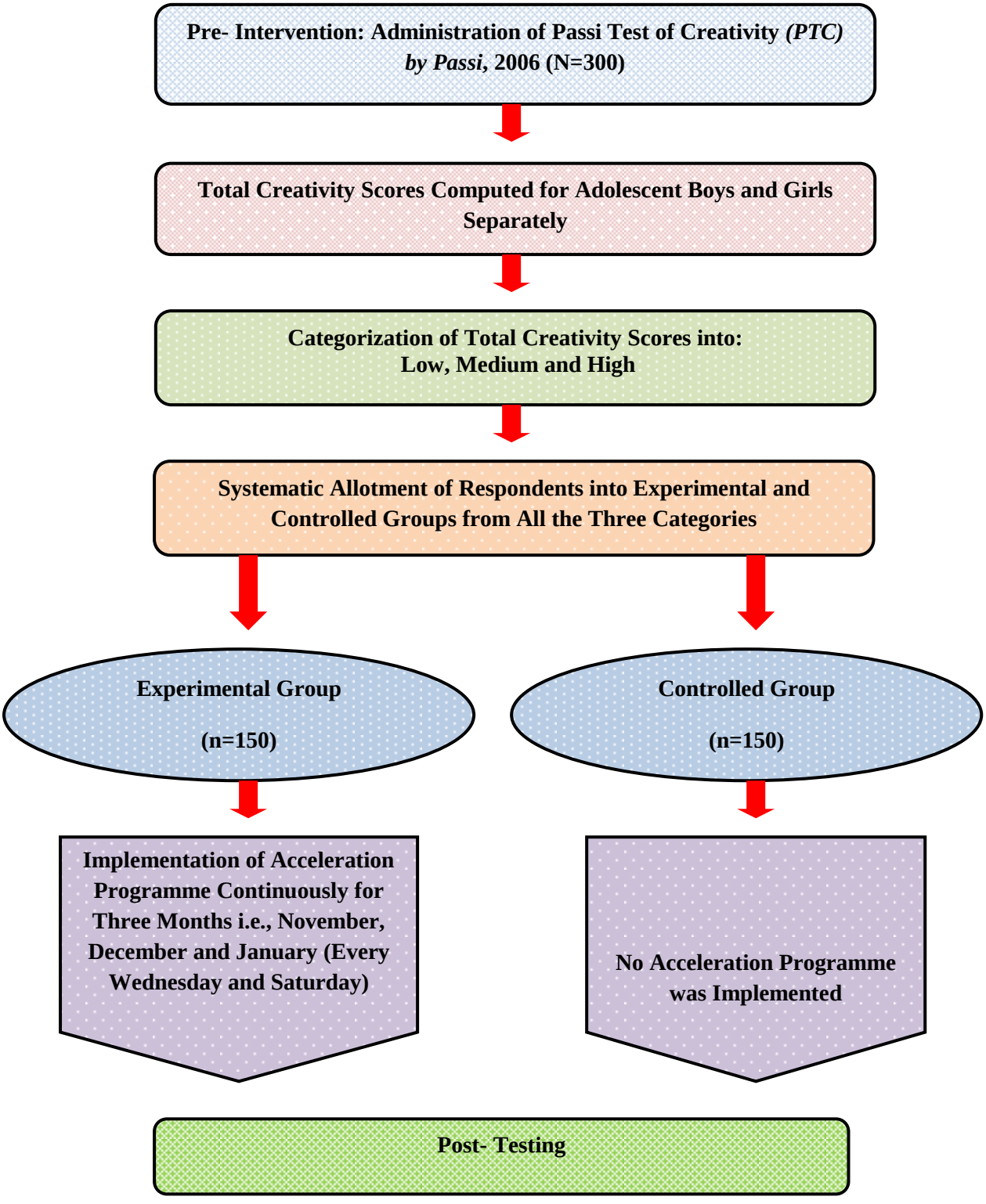

Figure 2: Sampling Procedure for Post-Testing

3.2 Variables and their Measurements:

Variables	Measuring Tool
A) Independent Variables- **1. Personal and Socio-Economic Variables** I. Academic Class II. Gender III. Age (Chronological Age) IV. Birth Order/ Ordinal Position V. Caste VI. Type of School VII. Medium of Instruction VIII. Consecutive Academic Record IX. Self Appraisal of School Performance X. Academic Performance Stress XI. Sleep Disorder XII. Favorite Subject XIII. Preferable Teaching Method XIV. Type of Family XV. Family Size XVI. Number of Siblings XVII. Parental Education XVIII. Parental Occupation XIX. Monthly Family Income XX. Land Holding XXI. Parenting Style Adopted by Parents XXII. Role of Parents and Teachers in Creativity Enhancement XXIII. Teaching Method Employed by Teachers XXIV. Mass Media Exposure (Type of Mass Media Used, Time Spend on Mass Media and Social Media Use)	Questionnaire cum Interview Schedule was Developed to assess the Personal and Socio-Economic Variables.
B) Dependent Variables Creativity: i. Seeing Problems ii. Fluency iii. Flexibility iv. Originality v. Inquisitiveness vi. Persistency	**Passi Test of Creativity *(PTC)*** *by Passi*, (2006) was implemented. This test had six sub-tests: I. Seeing Problem Test II. Unusual Uses Test III. Consequences Test IV. Test of Inquisitiveness V. Test of Square Puzzle VI. Blocks Test of Creativity

3.3 Operationalization of Variables and their Measurements

There were two types of variables in the study-the independent and dependent variable. Dependent variables measured were expected to change as a result of an experimental manipulation of the independent variable or variables. It is the presumed effect. Independent

variable is stable and unaffected by the other variables researcher trying to measure. This variable is systematically manipulated by the investigator. It is the presumed cause.

3.3.1 Independent variables: Personal and socio-economic variables

Socio-personal variables included personal and socio-economic variables. Socio-personal variables were academic class, gender, age, birth order/ ordinal position, caste, type of school, medium of instruction, consecutive academic record, self appraisal of school performance, academic performance stress, sleep disorder, favorite subject, preferable teaching method, type of family, family size, number of siblings, maternal education and occupation, paternal education and occupation, monthly family income, land holding, parenting style adopted by parents, role of parents and teachers in creativity enhancement of adolescents, teaching method employed by teachers and mass media exposure.

i) Academic Class

Academic class represents the class in which adolescents were studying at the time of data collection. Codes assigned were:

Academic class	Code
8^{th}	1
9^{th}	2
10^{th}	3

ii) Gender

Gender refers to the socially constructed roles, responsibilities and behaviors that a society typically associates with boys and girls. Assigned codes were as follows:

Gender	Code
Boy	1
Girl	2

iii) Age

Age was operationalized as the chronological age of the adolescent at the time of data collection. Following categories were framed and codes were assigned as under:

Age	Code
12 years	1
13 years	2
14 years	3

iv) Birth Order/ Ordinal Position

Birth order/ ordinal position was operationalized as the order a child is born in their family among his/her siblings. It ranged from first born to fourth born and above birth order.

Birth Order/ Ordinal Position	Code
First Born	1
Second Born	2
Third Born	3
Fourth Born	4

v) Caste

Caste system was operationalized as social class or hierarchical order of the family. Codes were given as under:

Caste Category	Code
General Category	1
Scheduled Caste	2
Backward Class	3

vi) Type of School

Type of school was operationalized as Government school and private school. As the names imply, Govt. schools are funded, administered and controlled by the local, state or national government. Whereas, private schools are partially or wholly funded, administered and controlled by the private organizations/trusts. The categorization and codes assigned were:

Type of School	Code
Government School	1
Private School	2

vii) Medium of Instruction

It referred to the language used by the teacher through which education is imparted to the children. It may or may not be the official language of the country. Bilingual means the use of more than one language as instruction medium. Following categories were framed and codes were assigned as under:

Medium of Instruction	Code
Hindi	1
English	2
Bilingual	3

viii) Consecutive Academic Record

Consecutive academic record was operationalized as the cumulative academic performance of the respondent from the last three years consecutively. Quantification of the consecutive academic record was done as per the following scoring pattern:

Consecutive Academic Record	Code
85% to 87%	1
88% to 90%	2
91% and more	3

ix) Self Appraisal of School Performance

Self appraisal of school performance by students (also known as self-evaluation or self-assessment) illustrated the act of evaluating one's own performance i.e., how they rate their own school performance ranging from above average to below average. The codes provided were:

Self -Appraisal of School Performance	Code
Above Average	1
Average	2
Below Average	3

x) Academic Performance Stress

Academic performance stress represented the mental distress with respect to some predictable frustration associated with academic failure or even awareness of the possibility of such future oriented failures. The categorization and codes assigned were:

Academic Performance Stress	Code
Never	1
Sometimes	2
Always	3

xi) Sleep Disorders

Sleep disorders were considered as a medical condition that disrupts and changes the ability to sleep well on a regular basis. Such disorders (includes snoring, sleep deprivation, insomnia and restless leg syndrome etc.) can affect human health negatively. Quantification of the sleep disorders was done as per the following scoring pattern:

Sleep Disorders	Code
Never	1
Sometimes	2
Always	3

xii) Favorite Subject

Favorite subject of the students was operationalized as choosing one subject out of regularly taught all five subjects at school which they especially prefer and enjoys most while studying that subject. The allotted codes were as follows:

Favorite Subject	Code
Hindi	1
English	2
Mathematics	3
Science	4
Social Science	5

xiii) Preferable Teaching Method

A teaching method consists of principles and methods used by the teacher to enable student learning. Preferable teaching method reflects the interest of students in a particular teaching method which ultimately leads to enhance learners' learning outcome.

Theoretical method of teaching is concerned with the theory of a subject rather than its practical application. Demonstration method of teaching means to give "demos" or to perform the particular activity or concept in a systematic way. Mixed method of teaching comprises the combination of both theoretical and demonstration methods of teaching occasionally. Scoring pattern was as follows:

Preferable Teaching Method	Code
Theoretical Method	1
Demonstration Method	2
Mixed Method	3

xiv) Type of Family

It depicts whether it is single/ nuclear / joint or extended family. The single parent family consists of one parent (either mother or father) raising one or more children on his/her own. A nuclear family (also known as the conjugal family or the family of procreation) is comprised of married partners and their off springs, while, a joint family refers to one which is constituted by sets of siblings, their spouses, and their dependent children.

Extended family includes a household in which at least three generations i.e., parents, their children and other family members such as grandparents, uncles, aunts and cousins live together. The allotted codes were as:

Type of Family	Code
Single Parent Family	1
Joint Family	2
Extended Family	3
Nuclear Family	4

xv) Family Size: It was defined as the total number of members in the respondents' family at the time of data collection. Quantification of the family size was done as per the following scoring pattern:

Family size	Code
Marginal (3 to 5 Members)	1
Small (6 to 8 Members)	2
Medium (9 to 11 Members)	3
Large (more than 11 Members)	4

xvi) No of Siblings: It refers to the total number of children (brother and sister) of the same parent or parents at the time of data collection. Scoring pattern was as follows:

No of Siblings	Code
None/ Single Child	1
One Sibling	2
Two Siblings	3
Three and More Siblings	4

xvii) Maternal Education: Education of the respondents' mother was operationalized as the number of years of formal education attained by her and was categorized as follows with respective codes:

Maternal education	Code
Illiterate	1
Up to Matriculation	2
Graduate and Post Graduate	3

xviii) Paternal Education: Paternal education refers to the number of years of formal education attained by respondents' father. Scoring pattern was as follows:

Paternal education	Code
Illiterate	1
Up to Matriculation	2
Graduate and Post Graduate	3

xix) Maternal Occupation: Maternal occupation refers to a person's usual or principal work that serves as means of earning for ones regular source of livelihood. The codes assigned to various maternal occupations were as follows:

Maternal Occupation	Code
Home -maker	1
Agriculture	2
Private Sector Job	3
Govt. Employee	4

xx) Paternal Occupation: Paternal occupation is defined as the profession in which the respondent's father is engaged and is the main source of income for their family. Scoring pattern was as follows:

Paternal occupation	Code
Agriculture	1
Private Sector Job	2
Govt. Employee	3

xxi) Monthly Family income: It refers to the sum total of the income of respondents' family from all the sources by different family members in every month. Four different categories were framed on the basis of actual maximum and minimum income of the family.

Monthly income (Rs.)	Code
Less than 10,000	1
11,000 to 30,000	2
31,000 to 50,000	3
More than 51,000	4

xxii) Land Holding: An operational land holding is an area of land (land unit) owned by a person and used wholly or partly for agricultural production. Quantification of the land holding was done as per the following scoring pattern:

Land Holding	Code
Marginal (Less than 2 Acre)	1
Small (2 to 5 Acre)	2
Medium (5 to 10 Acre)	3
Large (More than 10 Acre)	4

xxiii) Parenting Style Adopted by the Parents: It refers to the combination of strategies that are harnessed by parents to raise their children. Parenting styles were operationalized as authoritative parenting; authoritarian parenting; permissive (indulgent) parenting and neglectful (uninvolved) parenting.

In authoritative parenting style, parents are nurturing and supportive, yet set firm limits for their children. Also, they attempt to control children' behavior by explaining rules to them. Authoritarian parenting style involves parents who have clear expectations and consequences, but shows little affection toward their child. Permissive (indulgent) parents show lots of affection toward their children' but provides little discipline. In neglectful (uninvolved) parenting style, parents are unresponsive, unavailable and rejecting. Scoring pattern was as follows:

Parenting Style Adopted by the Parents	Code
Authoritative	1
Authoritarian	2
Permissive	3
Neglectful	4

xxiv) Role of Parents in Adolescents' Creativity Enhancement

It was operationalized on the basis of the parents' support which involved parental behaviors toward the child, such as praising, appreciating, encouraging, giving physical

affection and timely providing opportunities and activities to enhance their creativity. Scoring pattern was as follows:

Role of Parents in Creativity Enhancement	Code
High (11 and Above)	1
Medium (6 to 10)	2
Low (5 and Below)	3

xxv) Role of Teachers in Adolescents' Creativity Enhancement

It was operationalized on the basis of the teachers' support which involved delivering classroom instructions, preparing effective lessons, using appropriate teaching method, grading students' work and offering timely feedback, such as appreciating, encouraging, giving physical reward and timely organizing various activities to enhance their creativity. Scoring pattern was coded as follows:

Role of Teachers in Creativity Enhancement	Code
High (21 and Above)	1
Medium (10 to 20)	2
Low (9 and Below)	3

xxvi) Teaching Method Employed by Teachers:

A teaching method is an orientation/approach based on a pedagogical philosophy and/or learning theory that focuses on how maximum learning can be achieved. Teaching methods used by teachers were categorized as theoretical method, demonstration method and mixed method (as discussed earlier). Scoring pattern was as follows:

Preferable Teaching Method	Code
Theoretical Method	1
Demonstration Method	2
Mixed Method	3

xxvii) Exposure to Mass Media

i) Type of Mass Media Used: It was operationalized as the projected and non-projected sources of information available to the adolescents'. It was categorized as print media (newspaper, pamphlet, magazine etc), audio media (radio programmes, lecture etc), audio-visual media (television, demonstration, mobile phone related apps like you tube videos etc) and interactive media (practical, online learning via various apps etc.). It was coded as under:

Type of Mass Media Used	Code
Print Media	1
Audio Media	2
Audio- Visual Media	3
Interactive Media	4

ii) Time Spend on Mass Media: It comprised of total time span, which an adolescent regularly spend while using any mass media platform. Scoring pattern was as follows:

Time Spend on Mass Media	Code
3 Hours and Below	1
4 to 7 Hours	2
8 Hours and Above	3

iii) Social Media Use:

Social media were taken as various websites and applications (such as Face book, YouTube, Twitter, Instagram and WhatsApp etc.) that enable respondents' to create and share content through social networking. Such applications are also used to be in touch with friends and extended family members, for career opportunities, to interact with people across the globe with similar interests and share their thought, feelings and emotions. It was coded as under:

Social Media Use	Code
Yes	1
No	2

3.3.2 Dependent variable

Dependent variables defined as those, which are influenced by various external or internal factors. The Passi (2006) Tests of Creativity (both in English and Hindi) was implemented for the purpose of measuring dependent variables. The test battery included different six tests, namely: (i) Seeing Problem Test, (ii) Unusual Uses Test, (iii) Consequences Test, (iv) Test of Inquisitiveness, (v) Square Puzzle Test and (vi) Block Test of Creativity.

The nature of the present test permitted freedom of responses both qualitatively and quantitatively within specified time limits, thus guaranteeing suitability of the tools for measuring divergent thinking of the respondents. All tests were available in both Hindi and English languages. Responses were recorded in any one of the known languages (English-Hindi etc). A brief and specific outline of all the six tests of creativity is specified under the following captions:

A) **Seeing Problems Test**: The Seeing Problems Test was designed to measure a factor of sensitivity to problems which is also one of the dimensions of creativity as described by Guilford. The test was proposed to assess the ability to comprehend problems concerning the working of simple articles of daily use. The test of Seeing Problems comprised four different items, namely, shoes, pen, chair and post-card. The maximum time allotted for the test was eight minutes (two minutes for each item). In this test each accepted response was given a credit of one score representing Seeing Problems (SP) and the codes assigned were:

Seeing Problems (SP)	Code
Above average (27 and above)	3
Average (13-26)	2
Below average (Less than 13)	1

B) **Unusual Uses Test:** This test included the names of various things which could be used for numerous purposes. It involved only those items which have close proximity with the psychological and physical environment of the respondents. The test consisted of only two items, i.e., piece of cloth and bottle. The subjects were asked to write down as many interesting and atypical responses against each stimulus article as they can. The maximum time given for the test was eight minutes so that four minutes could be dedicated to each of the items. This test was interpreted for the dimensions of fluency (UF), flexibility (UX), originality (UO) and creativity (UC). Fluency score was assessed by counting the total number of acceptable responses given by respondents. Flexibility was evaluated by the diversity in categories of responses as classified with the help of scoring key. Originality was obtained on the basis of commonness of the answers for which a five-point scale from zero to four was given in order of assigning scores to a response according to its level of commonness. The creativity score was calculated as the sum total of the scores of fluency, flexibility and originality. The codes allotted for above mentioned variables were as follows:

Codes assigned for Unusual Uses Fluency (UF):

Unusual Uses Fluency (UF)	Code
Above average (13 and above)	3
Average (6-12)	2
Below average (Less than 6)	1

Codes given for Unusual Uses Flexibility (UX):

Unusual Uses Flexibility (UX)	Code
Above average (13 and above)	3
Average (6-12)	2
Below average (Less than 6)	1

Codes designated for Unusual Uses Originality (UO):

Unusual Uses Originality (UO)	Code
Above average (54 and above)	3
Average (27-53)	2
Below average (Less than 27)	1

Codes given for Unusual Uses Creativity (UC):

Unusual Uses Creativity (UC)	Code
Above average (80 and above)	3
Average (40-79)	2
Below average (Less than 40)	1

C) **Consequences Test:** The Consequences Test included four different statements, namely, "If all houses start flying", "If human beings start flying like birds", "If all female become males" and "If all people become mad". The maximum time limit set for the test was eight minutes so that two minutes could be spend to each of the items. This test measured three dimensions i.e., fluency (CF), originality (CO) and creativity (CC). Fluency scores were calculated by the sum total of accepted responses written by the students on the test. The scores of originality were measured by the sum total number of indirect or remote responses. The creativity score was evaluated as the sum total of fluency and originality. The codes allotted for above discussed variables were as follows:

Codes assigned for Consequences Fluency (CF):

Consequences Fluency (CF)	Code
Above average (27 and above)	3
Average (13-26)	2
Below average (Less than 13)	1

Codes designated for Consequences Originality (CO):

Consequences Originality (CO)	Code
Above average (27 and above)	3
Average (13-26)	2
Below average (Less than 13)	1

Codes given for Consequences Creativity (CC):

Consequences Creativity (CC)	Code
Above average (54 and above)	3
Average (27-53)	2
Below average (Less than 27)	1

D) **Test of Inquisitiveness:** In order to provide an unfamiliar, anonymous and narrative situation, the test involved a relatively less familiar item providing sound and movement as the test content, a metronome. In order to avail children's maximum inquisitiveness a play card stating, "A FEW CHILDREN CANNOT TOUCH IT", was displayed along with the metronome. The respondents were expected to imagine and write as many queries as possible within six minutes. This test measured the Inquisitiveness (INQ) of the adolescents and the codes assigned were:

Inquisitiveness (INQ)	Code
Above average (7 and above)	3
Average (3-6)	2
Below average (Less than 3)	1

E) **The Square Puzzle Test (Test of Persistency):** The rationale, for including the dimension of persistency in creativity was about the significance of persistency for the efficient exercise of a child's ability. Secondly, on the plea that the success or failure of a person's life rely largely on the capability to endure and continue to strive for the sake of success in spite of fatigue and discouragement. This test consisted of five identical quadrilaterals and five identical right-angled triangles made-up of plastic. Instructions were clearly stated regarding the construction of a square by using all the pieces without leaving any gap in between the pieces and the square can be constructed in multiple ways. The present test aimed at measuring persistency with the aid of a performance test. The square of persistency was interpreted as the time taken in completing the task. The codes for persistency were as follows:

Persistency (PER)	Code
Excellent (10 minute and below)	4
Good (11-20 minute)	3
Average (21-30 minute)	2
Poor (31-40 minute)	1

F) **Blocks Tests of Creativity (BTC):** The test consisted of nineteen identical cubes (l" × 1" × 1") and twelve diagonally cut semi-cubes (cut from the six cubes of l" × 1" × 1" dimensions). The six surfaces of the cubes were painted in red, blue, yellow, green, white and black. Besides this a 10" × 10" white wooden board was also provided to be used as a base for assembling the blocks to create various designs or structures. The respondents were asked to create as many interesting and unusual design as they can in ten minutes. They were further required to write down the headings of the designs produced. While students were busy in constructing designs, the investigator was drawing the figures of these designs simultaneously (at a later stage, these records were used for scoring and analysis of the responses). The scores of flexibility (BX), fluency (BF), originality (BO) and creativity (BC) were scored from the designs and structures developed by the students. The score of fluency was represented by the total number of accepted designs practiced within the specified time limit of the test. Flexibility score was interpreted as the total number of categories of designs produced by the students. The score of originality on this test was established in the same manner as in the case of the Unusual Uses Test. Creativity score was measured as the sum total of the scores of

fluency, flexibility and originality. The codes allotted for above discussed variables were as follows:

Codes designated for Blocks Fluency (BF):

Blocks Fluency (BF)	Code
Above average (7 and above)	3
Average (3-6)	2
Below average (Less than 3)	1

Codes assigned for Blocks Flexibility (BX):

Blocks Flexibility (BX)	Code
Above average (17 and above)	3
Average (8-16)	2
Below average (Less than 8)	1

Codes given for Blocks Originality (BO):

Blocks Originality (BO)	Code
Above average (27 and above)	3
Average (13-26)	2
Below average (Less than 13)	1

Codes allotted for Blocks Creativity (BC):

Blocks Creativity (BC)	Code
Above average (51 and above)	3
Average (26-50)	2
Below average (Less than 26)	1

Total Creativity (CY): Total creativity score was calculated as the sum total of Seeing Problem, Unusual Creativity (UC), Consequences Creativity (CC), Inquisitiveness (INQ), Persistency (PER) and Block Creativity (BC). The codes assigned for total creativity were as follows:

Total Creativity (CY)	Code
Above average (184 and above)	3
Average (92-183)	2
Below average (Less than 92)	1

3.4 Tools of Data Collection

3.4.1 Tools for independent variables:

3.4.1.1 Questionnaire for general information

A self-developed questionnaire cum interview schedule on general information which included questions related to personal and socioeconomic variables was implemented to gain data related to independent variables.

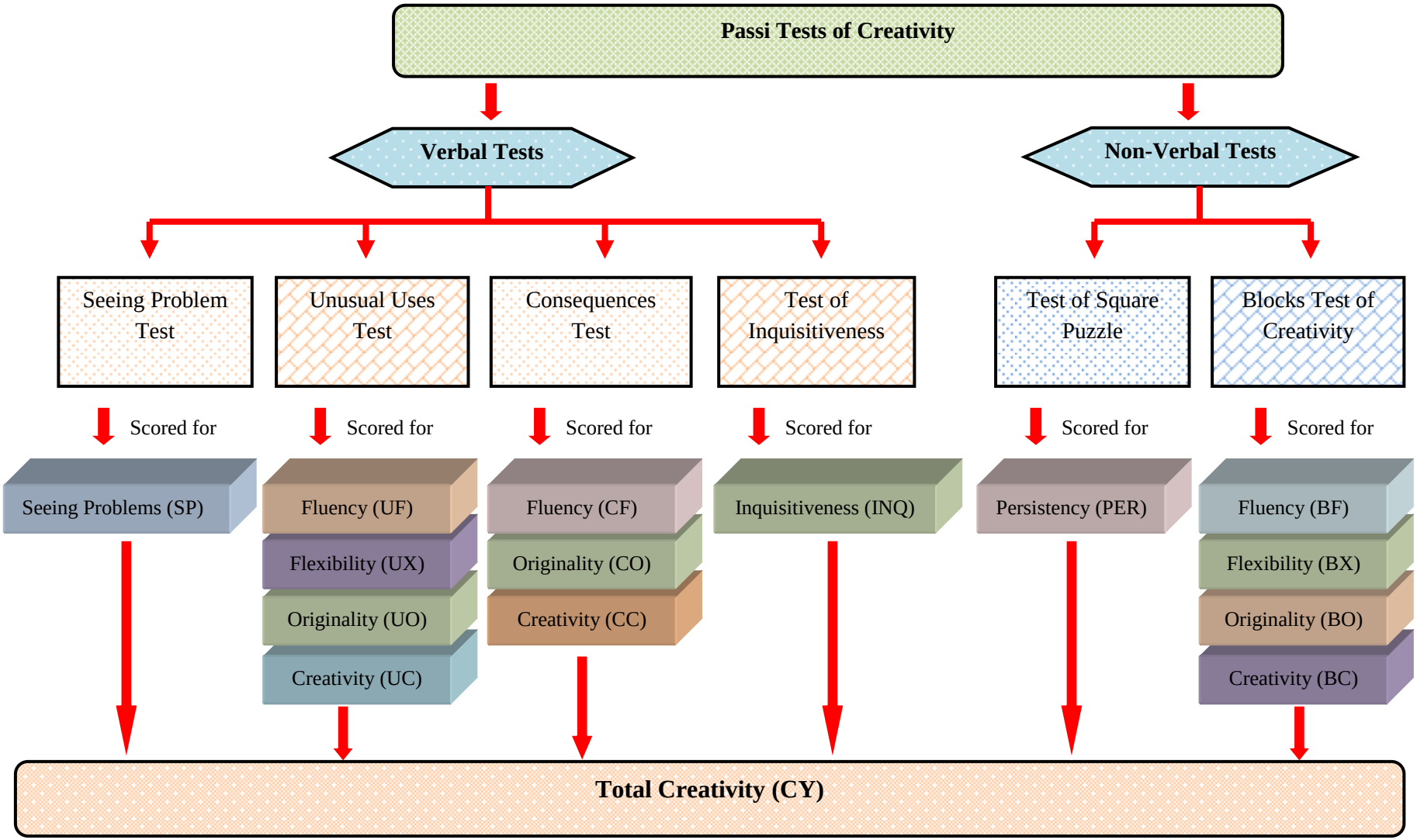

Fig. 3: B.K. Passi Tests of Creativity

3.4.2 Tools for dependent variables:

Passi Test of Creativity developed by Passi, 2006 was executed to assess the existing level of creativity among young adolescents. The tool consisted of six subscales namely: (i) Seeing Problem Test, (ii) Unusual Uses Test, (iii) Consequences Test, (iv) Test of Inquisitiveness, (v) Square Puzzle Test and (vi) Block Test of Creativity.

Reliability of the Passi Test of Creativity (PTC)

The test-retest reliability was observed to be most practicable with the Passi Test of Creativity (PTC). The split-half reliability technique was also used with tests having more than one test item. It was, however, considered worthwhile to analyze internal consistency in terms of inter-test correlations. Split half reliability method was scrutinized with only three verbal tests, i.e., seeing problems test, unusual uses test and consequences test. The results were achieved by employing the Spearman Brown formula. The reliability results were as follows:

Sr. No.	Name of the Test	Test-Retest Reliability	Split-Half Reliability
1.	Seeing Problems Test	0.68	0.88
2.	Unusual Uses Test	0.97	0.51
3.	Consequences Test	0.71	0.80
4.	Test of Inquisitiveness	0.74	-
5.	Square Puzzle Test	0.91	-
6.	Blocks Test of Creativity	0.83	-
	Creativity (Total)	0.92	-

Validity of the Passi Test of Creativity (PTC)

The convergent, divergent and factorial validity methods were applied simultaneously to validate the PTC. Validity studies were demeanor on the sample of sixty respondents. Thus, four different criteria's were employed to observe the validity of the PTC. These criteria were:

1. The "Things -Done -on -Your -Own" accepted from Torrance's (1962) check list.
2. Non-verbal Intelligence (adopted from the Raven's, Standard Progressive Matrices, 1960).
3. Verbal Intelligence (referred from the Jalota's; Group Test of General Mental Ability, 1964), and
4. Achievement (examination marks in school subjects).

Sr. No.	Name of the Test	Criteria Measures			
		Things-Done-On-Your-Own	Non-Verbal Intelligence	Verbal Intelligence	Achievement
1.	Seeing Problems Test	0.43**	0.29*	0.23	0.35**
2.	Unusual Uses Test	0.59**	0.32*	0.38**	0.34**
3.	Consequences Test	0.81**	0.04	0.27*	0.30*
4.	Test of Inquisitiveness	0.95**	0.81**	0.34**	0.22
5.	Square Puzzle Test	0.68**	0.16	0.26*	0.29*
6.	Blocks Test of Creativity	0.60**	0.05	-0.01	-0.07
Creativity (Total)		0.46**	0.27*	0.38**	0.35**

*Correlation significant at 0.05 level.

**Correlation significant at 0.01 level.

3.5 Data Collection

For data collection, Principals of the schools were approached personally to seek consent, after explaining the purpose of the research study. On mutual convenience ground, date and time of visits were finalized for each school well in advance. The class teachers of selected classes from various schools were discussed prior information for the date and time of visit.

Then, data were collected by using questionnaire cum interview schedule to gather information on dependent and independent variables. Standardized tests were used to gather data regarding creativity of the adolescents. The importance and objectives of the research investigation were explicitly explained to the students. The data were congregated in a friendly and in formal manner. The respondents were asked to read the general guidelines and questionnaire carefully before filling them.

3.6 Statistical Analysis of the Data

After gathering the primary data, the data were sorted, classified and tabulated in accordance with the standards in order to draw meaningful and relevant inferences as per the pre set objectives. For analysis of data, various phases such as categorization, coding, tabulation, and statistical analysis were followed. Qualitative data obtained from the measures analyzed by using the Statistical Package for the Social – Science (SPSS for windows). For interpretation of results various statistical tools employed are as follows:

a) Frequency and percentage:

Frequency of an event denotes the number of times the same observation was recorded in any study or experiment. Frequency and percentage were calculated for preparing personal and socio -economic profile of the academically bright rural young adolescents.

b) Mean

The mean value of the scores was calculated by dividing the sum total of observations by corresponding number of observations.

$$\overline{X} = \frac{\text{Sum of Observations}}{\text{No. of observations}}$$

c) Standard deviation (SD

In statistics it is a measure of the amount of dispersion or variation of a set of values. It was calculated as followed:

$$\sigma = \sqrt{\frac{1}{(n-1)} \sum (X_i - \overline{X})^2}$$

Where,

σ : Standard deviation

X_i : i^{th} observation in the sample

$\overline{X}$: Arithmetic mean of the sample

n : Total number of observations

d) 'Z' test: It is a statistical test to determine whether two population means are different when the variances are well-known and the sample size is large. 'Z scores' were computed for estimating the variability of the data across sex, type of school, physical/ chromosomal deformity and social media use. Z calculated values were compared against Z tabulated values at 5 % and 1% level of significance for n-1 degrees of freedom.

$$Z_{cal} = \frac{\overline{X} - \overline{Y}}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}}$$

For σ_1^2 $s_1^2 = \frac{\Sigma (X - \overline{X})^2}{n_1 - 1}$, For σ_2^2 $s_2^2 = \frac{\Sigma (Y - \overline{Y})^2}{n_2 - 1}$

Where,

$\overline{X}$: Mean score of first sample

$\overline{Y}$: Mean score of second sample

n_1 : First sample size

n_2 : Second sample size

σ_1^2 : Variance of first sample

σ_2^2 : Variance of second sample

e) **One-way Analysis of Variance (ANOVA)** is a group of statistical models and their associated estimation procedures applied to analyze the differences among group means (between the means of three or more independent variables) in a sample.

f) **Correlation:** it is a statistical measure that expresses the extent to which two variables are linearly related to each other means they change together at a constant rate. Pearson's Product Moment Co-efficient of Correlation was applied to find the correlation between various dependent variables. The Pearson coefficient of correlation was computed to find the relationship between two variables with the following formula

$$r_{xy} = \frac{\Sigma XY - (\Sigma X)(\Sigma Y)/n}{\sqrt{[\Sigma X^2 - (\Sigma X^2)/n][\Sigma Y^2 - (\Sigma Y)^2/n]}}$$

Where,

x and y: correlation coefficient between X and Y variables.

X & Y : Two variables

n : No. of pairs of variables

ΣXY : Sum of products of X and Y

ΣX : Sum of all values of first variable

ΣY : Sum of all values of second variable

ΣX^2 : Sum of squares of all values of first variable

ΣY^2 : Sum of squares of all values of second variable

g) Paired sample T-test: It was implemented to examine the differences between the pre and post testing scores of experimental and controlled groups. An alpha level of 0.05 and 0.01 was employed as level of significance.

$$t = \frac{\sum d}{\frac{\sqrt{N\sum d^2-(\sum d)^2}}{N-1}}$$

Where,

d = Difference between scores by subtracting condition 2 from condition 1.

$\sum d$ = Sum of differences.

d^2 = Square of differences.

$\sum d^2$ = Sum the squared differences.

$(\sum d)^2$ = Square the total of differences.

N = Total number of subjects.

h) Chi-square (χ^2) test: Karl Pearson (χ^2) test was administered to test the independence of attributes when using a cross-tabulation (bivariate table). It assesses whether an association exists between the two variables (independent variables and dependent variable) by comparing their observed and expected frequencies. In case of 2×2 contingency table where frequency was found to be less than 5 Yates's correction was applied.

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

Where,

O = Observed frequencies

E = Expected frequencies

When applying Yates's correction,

$$\chi^2 = \frac{(ad-bc)^2 - N/2}{r_1 r_2 c_1 c_2}$$

Where,

a = first observed frequency of 2×2 contingency table

b = second frequency

c = third frequency

d = fourth frequency

N = total no. of respondents

r_1 and r_2 = sum of first row and sum of second row respectively.

c_1 and c_2 = sum of first column and sum of second column respectively.

The calculated values of Chi-square were compared with tabulated Chi-square values at 5% and 1% level of significance; respectively at [(m-1) (n-1)] degree of freedom where 'm' represents the number of rows and 'n' is the number of columns.

CHAPTER -IV

RESULTS

Results portrayed under this section are based on the statistical analysis of primary data for accomplishment of the objectives of the study and are categorized under the following subsections.

4.1 Personal and socio-economic profiles of the respondents

4.2 Identifying academically bright rural young adolescents

4.3 Assessment of creativity of selected bright young adolescents

4.4 Comparison of creativity of respondents across various independent variables

4.5 Impact of acceleration program on creativity among adolescents

4.6 Correlations between dependent variables

4.7 Associations between dependent and independent variables

4.1 Personal and socio-economic profiles of the respondents

Table 1: Personal and socio-economic profiles of the respondents

Sr. no.	Variables	Govt. School (n=150)	Private School (n=150)	Total (N=300)	
				Frequency	Percentage
1.	**Academic Class**				
	Eighth	49 (32.7)	82 (54.7)	131	43.7
	Ninth	41 (27.3)	64 (42.7)	105	35.0
	Tenth	60 (40.0)	04 (2.7)	64	21.3
2.	**Gender**				
	Boys	75 (50.0)	75 (50.0)	150	50.0
	Girls	75 (50.0)	75 (50.0)	150	50.0
3.	**Age**				
	12 years old	48 (32.0)	34 (22.7)	82	27.3
	13 years old	26 (17.3)	32 (21.3)	58	19.3
	14 years old	76 (50.7)	84 (56.0)	160	53.3
4.	**Birth order/ ordinal position**				
	First born	44 (29.3)	59 (39.3)	103	34.3
	Second born	47 (31.3)	45 (30.0)	92	30.7
	Third born	30 (20.0)	37 (24.7)	67	22.3
	Fourth born	29 (19.3)	09 (6.0)	38	12.7
5.	**Caste**				
	General category	14 (9.3)	88 (58.7)	102	34.0
	Scheduled caste	65 (43.3)	28 (18.7)	93	31.0
	Backward class	71 (47.3)	34 (22.7)	105	35.0
6.	**Medium of instruction**				
	Hindi	50 (33.3)	00 (0.0)	50	16.7
	English	00 (0.0)	100 (66.7)	100	33.3
	Bilingual	100 (66.7)	50 (33.7)	150	50.0

7.	**Consecutive academic record**				
	85% to 87%	85 (56.7)	45 (30.0)	130	43.3
	88% to 90%	46 (30.7)	57 (38.0)	103	34.3
	91% and more	19 (12.7)	48 (32.0)	67	22.3
8.	**Self -appraisal of school performance**				
	Above average	79 (52.7)	55 (36.7)	134	44.7
	Average	43 (28.7)	83 (55.3)	126	42.0
	Below average	28 (18.7)	12 (8.0)	40	13.3
9.	**Academic performance stress**				
	Never	63 (42.0)	111 (74.0)	174	58.0
	Sometimes	60 (40.0)	23 (15.3)	83	27.7
	Always	27 (18.0)	16 (10.7)	43	14.3
10.	**Sleep disorders**				
	Never	53 (35.3)	79 (52.7)	132	44.0
	Sometimes	74 (49.3)	64 (42.7)	138	46.0
	Always	23 (15.3)	07 (4.7)	30	10.0
11.	**Favorite subject**				
	Hindi	43 (28.7)	23 (15.3)	66	22.0
	English	56 (37.3)	30 (20.0)	86	28.7
	Mathematics	24 (16.0)	41 (27.3)	65	21.7
	Science	11 (7.3)	42 (28.0)	53	17.7
	Social Science	16 (10.7)	14 (9.3)	30	10.0
12.	**Preferable teaching method**				
	Theoretical method	26 (17.3)	05 (3.3)	31	10.3
	Demonstration method	77 (51.3)	108 (72.0)	185	61.7
	Mixed method	47 (31.3)	37 (24.7)	84	28.0
13.	**Type of family**				
	Joint family	50 (33.3)	98 (65.3)	148	49.3
	Extended family	40 (26.7)	27 (18.0)	67	22.3
	Nuclear family	60 (40.0)	25 (16.7)	85	28.3
14.	**Family size**				
	Marginal (3 to 5 members)	64 (42.7)	49 (32.7)	113	37.7
	Small (6 to 8 members)	63 (42.0)	59 (39.3)	122	40.7
	Medium (9 to 11 members)	15 (10.0)	23 (15.3)	38	12.7
	Large (more than 11 members)	08 (5.3)	19 (12.7)	27	9.0
15.	**Number of siblings**				
	One sibling	15 (10.0)	24 (16.0)	39	13.0
	Two siblings	46 (30.7)	61 (40.7)	107	35.7
	Three and more siblings	89 (59.3)	65 (43.3)	154	51.3
16.	**Maternal education**				
	Illiterate	81 (54.0)	46 (30.7)	127	42.3
	Up to matriculation	51 (34.0)	77 (51.3)	128	42.7
	Graduate and Post Graduate	18 (12.0)	27 (18.0)	45	15.0

17.	**Paternal education**				
	Illiterate	38 (25.3)	18 (12.0)	56	18.7
	Up to matriculation	79 (52.7)	70 (46.7)	149	49.7
	Graduate and Post Graduate	33 (22.0)	62 (41.3)	95	31.7
18.	**Maternal occupation**				
	Home- maker	103 (68.7)	114 (76.0)	217	72.3
	Agriculture	31 (20.7)	00 (0.0)	31	10.3
	Private sector job	09 (6.0)	17 (11.3)	26	8.7
	Govt. job	07 (4.7)	19 (12.7)	26	8.7
19.	**Paternal occupation**				
	Agriculture	76 (50.7)	79 (52.7)	155	51.7
	Private sector job	51 (34.0)	35 (23.3)	86	28.7
	Govt. job	23 (15.3)	36 (24.0)	59	19.7
20.	**Monthly family income**				
	Less than Rs. 10,000	81 (54.0)	33 (22.0)	114	38.0
	Rs. 11,000-30,000	16 (10.7)	31 (20.7)	47	15.7
	Rs. 31,000-50,000	31 (20.7)	33 (22.0)	64	21.3
	More than Rs. 51,000	22 (14.7)	53 (35.3)	75	25.0
21.	**Land holding**				
	Marginal (less than 2 Acre)	81 (54.0)	68 (45.3)	149	49.7
	Small (2 to 5 Acre)	42 (28.0)	37 (24.7)	79	26.3
	Medium (5 to 10 Acre)	19 (12.7)	37 (24.7)	56	18.7
	Large (more than 10 Acre)	08 (5.3)	08 (5.3)	16	5.3
22.	**Parenting style**				
	Authoritative	38 (25.3)	42 (28.0)	80	26.7
	Authoritarian	19 (12.7)	11 (7.3)	30	10.0
	Permissive	55 (36.7)	83 (55.3)	138	46.0
	Neglectful	38 (25.3)	14 (9.3)	52	17.3
23.	**Role of parents in adolescents' creativity enhancement**				
	High (11 and above)	39 (26.0)	48 (32.0)	87	29.0
	Medium (6 to 10)	36 (24.0)	59 (39.3)	95	31.7
	Low (5 and below)	75 (50.0)	43 (28.7)	118	39.3
24.	**Role of teachers in adolescents' creativity enhancement**				
	High (21 and above)	08 (5.3)	25 (16.7)	33	11.0
	Medium (10 to 20)	55 (36.7)	55 (36.7)	110	36.7
	Low (9 and below)	87 (58.0)	70 (46.7)	157	52.3
25.	**Teaching method employed by teachers**				
	Theoretical method	33 (22.0)	93 (62.0)	126	42.0
	Demonstration method	84 (56.0)	45 (30.0)	129	43.0
	Mixed method	33 (22.0)	12 (8.0)	45	15.0
26.	**Type of mass media used**				
	Print media	12 (8.0)	10 (6.7)	22	7.3
	Audio media	04 (2.7)	02 (1.3)	06	2.0
	Audio-Visual media	120 (80.0)	129 (86.0)	249	83.0
	Interactive media	14 (9.3)	09 (6.0)	23	7.7

27.	**Time spend on mass media**				
	3 hours and below	101 (67.3)	139 (92.7)	240	80.0
	4 to 7 hours	42 (28.0)	00 (0.0)	42	14.0
	8 hours and above	07 (4.7)	11 (7.3)	18	6.0
28.	**Social media use**				
	Yes	90 (60.0)	56 (37.3)	146	48.7
	No	60 (40.0)	94 (62.7)	154	51.3

Figures in parentheses indicate percentages

The perusal of data in Table 1 revealed that in Govt. schools out of total sample 32.7 percent of respondents were studying in eighth class followed by ninth class (27.3%) and tenth class (40%), respectively. In private schools 54.7 percent of young adolescents were studying in eighth class followed by ninth class (42.7%) and tenth class (2.7%), respectively.

Further data portrayed that in Govt. schools more than half of the respondents were in the age group of 14 years (50.7%) followed by 12 years (32%) and 13 years (17.3%), respectively. Similar pattern was also observed in private schools, where, more than half of the young adolescents were under the age group of 14 years (56%) followed by 12 years (22.7%) and 13 years (21.3%), respectively.

With regard to caste, in Govt. schools the large numbers of respondents were belonging to backward class i.e., 47.3 percent accompanied by scheduled caste (43.3%) and general category (9.3%), respectively. Whereas, in private schools the opposite pattern was found i.e., more than half of the respondents were from general category (58.7%) followed by backward class students (22.7%) and scheduled caste (18.7%), respectively.

Results regarding medium of instruction employed in the schools for teaching students revealed that in Govt. schools 66.7 percent of the schools taught both in English and Hindi languages, while 33.7 percent used Hindi language. In private schools 66.7 percent of the schools taught in English language and 33.7 percent in Hindi and bilingual as the medium of instruction.

Consecutive academic records of previous three classes of the students indicated that in Govt. schools 56.7 percent students scored 85 percent to 87 percent, while 30.7 percent students achieved 88 percent to 90 percent and only 12.7 percent of the students attained more than 91 percent marks. Consecutive academic record of the academically bright young adolescents of private schools displayed that 38 percent students attained 88 percent to 90 percent marks followed by 32 percent students scoring more than 91 percent and 30 percent scored 85 percent to 87 percent.

Self-appraisal report of Govt. school students revealed that 52.7 percent were considered themselves as above average followed by 28.7 percent as average and 18.7 percent below average, respectively. Self-appraisal report of private school students presented that 55.3 percent considered themselves as average followed by 36.7 percent as above average and 8 percent below average, respectively.

The information regarding the academic performance stress experienced by the respondents elucidated that in Govt. schools 42 percent of the students never felt academic performance stress, 40 percent admitted that sometimes they have experienced academic performance stress and 18 percent agreed that they always remained under stress due to their academic performance.

In case of private school students, majority of the students (74 percent) agreed that they never felt stressed about their academic performance accompanied by the 15.3 percent respondents who sometimes felt stressed due to their academic performance and only 10.7 percent agreed that they always remained under stress about their academic performance.

The data regarding the sleep disorders of the respondents revealed that in Govt. schools 49.3 percent students sometimes faced the sleep deprivation accompanied by 35.3 percent who never experienced any sleep disorder and 15.3 percent always faced sleep disorders. Results of private school students depicted that 52.7 percent of the students did not face any sleep difficulty followed by 42.7 percent who sometimes faced sleep disorder and 4.7 percent agreed that they always were under sleep disorders.

Table 1 elucidated that the favorite subject of 37.3 percent students preferred English, 28.7 percent students preferred Hindi, 16.0 percent students liked mathematics, 10.7 percent students were interested in social science and only 7.3 percent favored science. In private schools 28.0 percent of the students favored science, 27.3 percent favored mathematics, 20 percent liked English, and 15.3 percent preferred Hindi and only 9.3 percent were interested in social science.

Data regarding preferable teaching method of the students indicated that majority of the students in both Govt. (51.3 percent) and private (72.0 percent) schools preferred demonstration method followed by the combination of both theoretical and demonstration methods in both Govt. (31.3 percent) and private (24.7 percent). A low number of students favored theoretical method of teaching in both Govt. (17.3 percent) and private (3.3 percent) schools.

Data pertaining to type of families showed that in Govt. schools 40 percent of the respondents were from nuclear families, 33.3 percent belonged to joint families and 26.7 percent had extended families. In private schools most of the student's belonged to joint families (65.3 percent) followed by extended family (18 percent) and nuclear families (16.7 percent), respectively.

Results regarding total number of members in the families of respondents elucidated that in Govt. schools, 42.7 percent adolescents had marginal sized family, 42 percent had small sized family, 10 percent had medium sized family and only 5.3 percent had large family. In case of private schools 39.3 percent students belonged to small families, 32.7 percent belonged to marginal, 15.3 percent belonged to medium size and 12.7 percent belonged to large size families.

The information collected for number of siblings of respondents had showed that in Govt. schools 59.3 percent students had three and more than three siblings, 30.7 percent had two siblings and 10 percent had only one sibling. The corresponding figures in private schools were 43.3 percent, 40.7 percent and 16.0 percent, respectively.

Results regarding maternal education of the students studying in Govt. schools revealed that 54 percent of the respondents' mothers were illiterate, 34 percent studied up to matriculation and 12 percent were graduated. In private schools the corresponding figures were 30.7 percent, 51.3 percent and 18 percent, respectively.

Paternal education of the respondents elucidated that in Govt. schools, 52.7 percent of adolescents' fathers were educated up to matriculation, 25.3 percent were illiterate and 22 percent were graduates. The corresponding figures in private schools were 46.7 percent, 12 percent and 41.3 percent, respectively.

Table 1 presented that in Govt. schools most of the respondents mothers were home-makers (68.7%) followed by agriculture (20.7%), private sector job (6%) and Govt. employee (4.7%). Similarly, in private schools majority of the mothers of respondents were home-makers (76%) accompanied by Govt. employee (12.7%) and private sector job (11.3%), respectively.

The information regarding paternal occupation of young adolescents indicated that in Govt. schools 50.7 percent of the fathers of respondents were engaged in agriculture, 34 percent were employed in private sector whereas 15.3 percent were in Govt. sector. In private schools the corresponding figures were 52.7 percent, 23.3 percent and 24 percent, respectively.

Figures related to the monthly family income of the respondents elucidated that in Govt. schools 54 percent of the children belonged to families who had monthly income less than Rs. 10,000, 20.7 percent belonged to families with monthly earnings ranging from Rs. 31,000 to Rs. 50,000, 14.7 percent with a monthly income more than Rs. 51,000 and 10.7 percent with a monthly income ranging from Rs. 11,000 to Rs. 30,000.

In private schools 35.3 percent students belonged to families who had their monthly family income more than Rs. 51,000, 22 percent of respondents belonged to the families having monthly income from Rs. 31,000 to Rs. 50,000 whereas 20.7 percent of young adolescents belonged to families with monthly income in the range of Rs. 11,000 to Rs. 30,000.

The data related to land holding stated that in Govt. schools 54 percent of the students belonged to the families who had less than 2 acres of land, 28 percent belonged to the families who owned 2 to 5 acres, 12.7 percent belonged to 5 to 10 acres and 5.3 percent belonged to families who had more than 10 acres. The corresponding figures in private schools were 45.3 percent, 24.7 percent, 24.7 percent and 5.3 percent, respectively.

Data pertaining to parenting styles stated that greater number of parents adopted permissive style in Govt. (36.7%) and private (55.3%) schools. In Govt. schools 25.3 percent of parents favored authoritative parenting style and the same percentage of parents supported neglectful parenting style. Least number of families adopted authoritarian parenting style (12.7%). In private schools 28.0 percent of parents adopted authoritative parenting style. Only 9.3 percent of parents advocated for neglectful parenting style and a very small number of parents (7.3%) followed authoritarian parenting style.

The data regarding role played by parents of adolescents in their creativity enhancement indicated that in Govt. schools half of the parents paid very little attention towards creativity of their children followed by 26 percent of parents who paid high attention and 24 percent of parents' paid medium attention. In private school students 39.3 percent of parents were playing medium role in supporting the creativity, 32 percent of parents were highly attentive towards improving the creativity and 28.7 percent of parents paid very low care towards the creativity of their children.

The figures related to role played and efforts made by teachers in creativity development of adolescents in school, confirmed that in both schools i.e., in Govt. (58%) and in private (46.7%) greater percentage of teachers made least efforts, followed by medium level efforts made by Govt. (36.7%) and by private (36.7%) schools. Lastly, a very few teachers in both schools *viz*., Govt. (5.3%) and in private (16.7%) paid greater attention towards the creativity augmentation of the students.

Regarding teaching methods employed by teachers in their regular classroom settings, in Govt. schools, 56 percent of the teachers emphasized on demonstration teaching method, while in private schools 62 percent teachers focused on theoretical method of teaching. Govt. school teachers accentuated equally on both theoretical and mixed teaching method (22%). In private schools, 30 percent teachers implemented demonstration teaching practice followed by mixture of both afore mentioned teaching methods (8%).

The data related to type of mass media used by respondents, stated that in both schools i.e., in Govt. (80%) and private (86%) majority of students were using audio-visual media as a source of entertainment. In Govt. schools 9.3 percent students were utilizing interactive type of media, 8 percent respondents were employing print media and only 2.7 percent of adolescents were practicing audio media. In private schools 6.7 percent students were using print media as a means of entertainment, 6 percent respondents were utilizing interactive type of mass media and only 1.3 percent of young adolescents were employing audio type of mass media as a mode of entertainment.

The information regarding time spent by young adolescents on mass media in both schools Govt. (67.3%) and private (92.7%) depicted that higher number of students spent less than 3 hours on any type of mass media. Data further revealed that in Govt. schools, 28 percent respondents spent 4 to 7 hours on mass media on daily basis and only 4.7 percent of adolescents were using mass media more than 8 hours per day. In private schools, it was concluded that 7.3 percent of young adolescents were utilizing mass media for more than 8 hours and none of respondents were employing mass media for the time duration of 4 to 7 hours.

The information regarding the use of social media by the adolescents portrayed that in Govt. schools 60 percent students were harnessing social media and 40 percent of respondents were not having any social media account. Whereas, in private schools 62.7 percent of students were having no social media accounts and 37.3 percent of adolescents were interacting with their friends through various types of social media platforms. The information gathered on these

different independent variables was further employed to elucidate their relationship with the sub aspects of creativity.

4.2 Identification of academically bright rural young adolescents

Table 2: Number of academically bright rural young adolescents n=300

Students Studying in Government Schools							
Sr. No.	**School Name**	**Students studying in 8th,9th and 10th class**		**Total**	**Academically bright students studying in 8th, 9th and 10th class**		**Total**
		Girls	**Boys**		**Girls**	**Boys**	
1.	Govt. High School (boys), Kheri Jalab	-	44	44	-	11	11
2.	Govt. Girls Senior Secondary School, Kheri Jalab	58	-	58	14	-	14
3.	Govt. High School, Budana	49	38	87	12	09	21
4.	Govt. High School, Nara	53	48	101	14	13	27
5.	Govt. Senior Secondary School, Lohari Ragho	60	45	105	13	15	28
6.	Govt. Senior Secondary School, Haibatpur	30	24	54	06	08	14
7.	Govt. Senior Secondary School, Koth Khurd	43	37	80	11	10	21
8.	Govt. Senior Secondary School, Rakhi Khas	50	43	93	05	09	14
Total		**343**	**279**	**622**	**75**	**75**	**150**
Students Studying in Private Schools							
1.	Swami Vivekanad Senior Secondary School, Kheri Jalab	43	39	82	14	10	24
2.	New Adarsh Senior Secondary School, Lohari Ragho	47	57	104	16	11	27
3.	Arya Senior Secondary School, Haibatpur	37	45	82	12	15	27
4.	Bal Jyoti Senior Secondary School, Budana	34	40	74	11	12	23
5.	Vidya Bharti Day Boarding Public School, Kheri Lohchab	30	41	71	09	13	22
6.	Naurangmal Senior Secondary School, Kapro	42	49	91	13	14	27
Total		**233**	**271**	**504**	**75**	**75**	**150**
Grand Total		**576**	**550**	**1126**	**150**	**150**	**300**

In Govt. schools, 622 students (girls=343 & boys=279) were studying in 8th, 9th and 10th classes, respectively (Table 2). Out of these young adolescents persistently scoring more than 85 percent from the last three consecutive years, i.e., 150 students (girls=75 & boys=75) were opted as representative sample for the present research.

In private schools 504 students (girls=233 & boys=271) were studying in 8th, 9th and 10th classes, respectively. Out of these students 150 academically bright rural young adolescents (girls=75 & boys=75) were chosen as the representative sample for the present research.

4.3 Assessment of creativity of selected bright young adolescents

Table 3: Level of creativity among academically bright adolescents by school type and gender **n=300**

Sr. No.	Variables	School Type		Gender		Total (n=300)	
		Govt. (n=150)	Private (n=150)	Boys (n=150)	Girls (n=150)	Frequency	%
1.	**Seeing Problem (SP)**						
	Above Average (27 and above)	51(34.0)	26(17.3)	46(30.7)	31(20.7)	77	25.7
	Average (13-26)	69(46.0)	56(37.3)	57(38.0)	68(45.3)	125	41.7
	Below Average (less than 13)	30(20.0)	68(45.3)	47(31.3)	51(34.0)	98	32.7
2.	**Unusual Uses Fluency (UF)**						
	Above Average(13 and above)	60(40.0)	23(15.3)	36(24.0)	47(31.3)	83	27.7
	Average (6-12)	57(38.0)	77(51.3)	63(42.0)	71(47.3)	134	44.7
	Below Average (less than 6)	33(22.0)	50(33.3)	51(34.0)	32(21.3)	83	27.7
3.	**Unusual Uses Flexibility (UX)**						
	Above Average (13 and above)	69(46.0)	64(42.7)	77(51.3)	56(37.3)	133	44.3
	Average (6-12)	50(33.3)	67(44.7)	53(35.3)	64(42.7)	117	39.0
	Below Average (less than 6)	31(20.7)	19(12.7)	20(13.3)	30(20.0)	50	16.7
4.	**Unusual Uses Originality (UO)**						
	Above Average (54 and more)	25(16.7)	13(8.7)	17(11.3)	21(14.0)	38	12.7
	Average (27-53)	46(30.7)	45(30.0)	37(24.7)	54(36.0)	91	30.3
	Below Average (less than 27)	79(52.7)	92(61.3)	96(64.0)	75(50.0)	171	57.0
5.	**Unusual Uses Creativity (UC)**						
	Above Average (80 and more)	35(23.3)	19(12.7)	22(14.7)	32(21.3)	54	18.0
	Average (40-79)	66(44.0)	60(40.0)	47(31.3)	59(39.3)	106	35.3
	Below Average (less than 40)	69(46.0)	71(47.3)	81(54)	59(39.3)	140	46.7
6.	**Consequences Fluency (CF)**						
	Above Average (27 and more)	26(17.3)	63(42.0)	39(26.0)	50(33.3)	89	29.7
	Average (13-26)	66(44.0)	41(27.3)	62(41.3)	45(30.0)	107	35.7
	Below Average (less than 13)	58(38.7)	46(30.7)	49(32.7)	55(36.7)	104	34.7
7.	**Consequences Originality (CO)**						
	Above Average (27 and more)	16(10.7)	35(23.3)	22(14.7)	29(19.3)	51	17.0
	Average (13-26)	49(32.7)	51(34.0)	51(34.0)	49(32.7)	100	33.3
	Below Average (less than 13)	85(56.7)	64(42.7)	77(51.3)	72(48.0)	149	49.7
8.	**Consequences Creativity (CC)**						
	Above Average (54 and more)	18(12.0)	40(26.7)	26(17.3)	32(21.3)	58	19.3
	Average (27-53)	51(34.0)	52(34.7)	51(34.0)	52(34.7)	103	34.3
	Below Average (less than 27)	81(54.0)	58(38.7)	73(48.7)	66(44.0)	139	46.3
9.	**Inquisitiveness (INQ)**						
	Above Average (7 and more)	35(23.3)	25(16.7)	37(24.7)	23(15.3)	60	20.0
	Average (3-6)	52(34.7)	36(24.0)	45(30.0)	43(28.7)	88	29.3
	Below Average (less than 3)	63(42.0)	89(59.3)	68(45.3)	84(56.0)	152	50.7

10.	**Persistency (PER)**						
	Excellent (10 min and more)	39(26.0)	27(18.0)	37(24.7)	29(19.3)	66	22.0
	Good (11-20 min)	42(28.0)	35(23.3)	39(26.0)	38(25.3)	77	25.7
	Average (21-30 min)	38(25.3)	56(37.3)	48(32.0)	46(30.7)	94	31.3
	Poor (31-40 min)	31(20.7)	32(21.3)	26(17.3)	37(24.7)	63	21.0
11.	**Blocks Fluency (BF)**						
	Above Average (7 and more)	40(26.7)	60(40.0)	56(37.3)	44(29.3)	100	33.3
	Average (3-6)	80(53.3)	71(47.3)	77(51.3)	74(49.3)	151	50.3
	Below Average (less than 3)	30(20.0)	19(12.7)	17(11.3)	32(21.3)	49	16.3
12.	**Blocks Flexibility (BX)**						
	Above Average (17 and more)	14(9.3)	35(23.3)	23(15.3)	26(17.3)	49	16.3
	Average (8-16)	68(45.3)	69(46.0)	75(50.0)	62(41.3)	137	45.7
	Below Average (less than 8)	68(45.3)	46(30.7)	52(34.7)	62(41.3`)	114	38.0
13.	**Blocks Originality (BO)**						
	Above Average (27 and more)	11(7.3)	12(8.0)	07(4.7)	16(10.7)	23	7.7
	Average (13-26)	39(26.0)	45(30.0)	44(29.3)	40(26.7)	84	28.0
	Below Average (less than 13)	100(66.7)	93(62.0)	99(66.0)	94(62.7)	193	64.3
14.	**Blocks Creativity (BC)**						
	Above Average (51 and more)	16(10.7)	35(23.3)	23(15.3)	28(18.7)	51	17.0
	Average (26-50)	66(44.0)	69(46.0)	75(50.0)	60(40.0)	135	45.0
	Below Average (less than 26)	68(45.3)	46(30.7)	52(34.7)	62(41.3)	114	38.0
15.	**Total Creativity (CY)**						
	Above Average (184 and more)	19(12.7)	26(17.3)	19(12.7)	26(17.3)	45	15.0
	Average (92-183)	63(42.0)	76(50.7)	68(45.3)	71(47.3)	139	46.3
	Below Average (less than 92)	68(45.3)	48(32.0)	63(42.0)	53(35.3)	116	38.7

Figures in parentheses indicate percentages

Table 3 depicted the level of creativity among academically bright rural young adolescents. Results emphasized that in unusual uses flexibility the respondents were having an above average (44.3%) performance, whereas average levels of creativity were observed in seeing problem (41.7%), unusual uses fluency (44.7%), consequences fluency (35.7%), persistency (31.3%), blocks fluency (50.3%), blocks flexibility (45.7%), blocks creativity (45.0%) and total creativity (46.3%). Below average levels of creativity among adolescents were depicted in unusual uses originality (57.0%), unusual uses creativity (46.7%), consequences originality (49.7%), consequences creativity (46.3%), inquisitiveness (50.7%) and blocks originality (64.3%).

Results emphasized that in the domain of seeing problem, major percent (46%) of students studying in Govt. schools had average level of scores while, in private schools 45.3 percent of adolescents were having below average scores.

Results pertaining towards unusual uses fluency portrayed that a vast number of Govt. schools students had above average scores (40.0%) and more than half of the students (51.3%) belonging to private schools had average level. Results related to unusual uses flexibility showed that in Govt. schools 46.0 percent of students had above average scores whereas, in private schools 44.7 percent were having average level.

In unusual uses originality more than half of the Govt. school students i.e., 52.7 percent had below average levels as compared to private school students whereas, 61.3 percent had below average levels. As the Table 3 revealed that 46 percent of Govt. school students had below average level of scores in unusual uses creativity, while 47.3 percent of students studying in private schools had below average levels.

Consequences fluency domain indicated that 44 percent of Govt. school students had average level and 42 percent of private school students had above average performance in the same sub aspect of creativity. More than half of the Govt. school students (56.7%) had below average level of consequences originality whereas, 42.7 percent of private school students had below average echelon in consequences originality. The data related to consequences creativity showed that major number of respondents (54%) from Govt. school had below average scores while only 38.7 percent of adolescents studying in private schools had below average levels in consequences creativity.

Inquisitiveness scores portrayed that 42 percent of young adolescents studying in Govt. schools had below average performance. In the similar domain more than half (59.3%) of the private school students were having below average scores. A different pattern was elucidated in persistency scores of respondents, i.e., 28 percent of Govt. school students were performing well (good) and 37.3 percent of private school students were revealing average performance in the persistency scores.

The information regarding blocks fluency revealed that in Govt. schools more than half (53.3%) of the respondents had average leveled performance and 47.3 percent of the respondents studying in private schools were also having average scores in the afore mentioned sub aspect of creativity. An equal percentage of adolescents studying in Govt. schools had average (45.3%) and below average (45.3%) scores in blocks flexibility. 46 percent of academically bright adolescents studying in private schools were showing average scores in blocks flexibility.

In blocks originality, major percent of both Govt. (66.7%) and private (62.0%) school students had below average levels. The data pertaining to blocks creativity portrayed that 45.3 percent of adolescents studying in Govt. schools had below average performance. Similar pattern was also observed in the total creativity scores of Govt. school students (45.3%). Statistical information regarding the blocks creativity (46.0%) and total creativity (50.7%) of respondents belonging to private schools portrayed average levels of performance.

In seeing problem ability, both boys (38%) and girls (45.3%) were having average levels. in the unusual usual fluency both boys (42%) and girls (47.3%) had average levels of performance. Above average (51.3%) scores were observed among boys in the domain of unusual uses flexibility, while average (42.7%) scores were portrayed in the girls unusual uses flexibility. Below average levels were depicted in the both boys (64%) and girls (50%) scores regarding their unusual uses originality.

The unusual uses creativity revealed that more than half of the boys were having below average level (54%). A total of 39.3 percent of female respondents had average performance in unusual uses creativity and a same percent of female respondents also had below average scores in the above-mentioned sub facet of creativity. In consequences fluency, 41.3 percent of boys had average scores and 36.7 percent girls had below average scores. In various sub aspects of creativity such as, consequences originality (boys = 51.3% and girls = 48.0%), consequences creativity (boys =48.7% and girls = 44.0%), inquisitiveness (boys = 45.3% and girls = 56.0%) and blocks originality (boys = 66.0% and girls = 62.7%), both boys and girls were having below average levels.

In diverse sub domains of creativity such as, persistency (boys = 32% and girls = 30.7%), blocks fluency (boys = 51.3% and girls = 49.3%) and total creativity (boys = 45.3% and girls = 47.3%) both boys and girls showed average scores. In blocks flexibility, half percentage of males had below average scores (50%). A total of 41.3 percent girls had below average scores in blocks flexibility and the similar percentage of respondents scored average scores in the afore mentioned sub aspect of creativity. Blocks creativity of the respondents portrayed that exactly half number of boys were average performers and 41.3 percent of girls were performing below average.

4.4 Comparison of creativity of respondents based on various independent variables

Table 4: Comparison of creativity of respondents based on academic class n=300

Sr. No.	Variables	Academic Class			F-value
		Eighth (n=131) Mean ± S.D.	Ninth (n=105) Mean ± S.D.	Tenth (n=64) Mean ± S.D.	
1.	Seeing Problem (SP)	22.29 [b] ±9.94	21.52 [ab] ±8.42	16.84 [a] ±8.22	08.16**
2.	Unusual Uses Fluency (UF)	10.05 [b] ±4.30	09.86 [ab] ±4.28	07.14 [a] ±4.425	10.82**
3.	Unusual Uses Flexibility (UX)	07.85±4.32	07.74±4.20	06.63±4.24	01.95
4.	Unusual Uses Originality (UO)	23.63±15.70	25.60 ±15.86	25.27 ±14.03	00.54
5.	Unusual Uses Creativity (UC)	50.12±27.09	51.90±29.393	41.98±24.55	02.79
6.	Consequences Fluency (CF)	17.46[ab] ±09.70	21.74[b] ±09.20	16.91 [a] ±07.52	08.29**
7.	Consequences Originality (CO)	16.00 [ab] ±09.27	17.96 [b] ±09.04	13.11 [a] ±06.08	06.32**
8.	Consequences Creativity (CC)	33.47 [ab] ±18.03	39.69 [b] ±16.72	29.69 [a] ±11.38	08.24**
9.	Inquisitiveness (INQ)	03.86±02.49	03.66±02.35	04.59±02.77	02.90
10.	Persistency (PER)	20.33 [ab] ±09.28	23.81 [b] ±10.65	16.09 [a] ±10.52	11.83**
11.	Blocks Fluency (BF)	05.21 [a]±02.29	06.03[b]±02.13	05.22 [a]±01.90	04.89*
12.	Blocks Flexibility (BX)	10.12 [ab] ±05.79	11.44 [b] ±06.35	08.31 [a] ±04.94	05.72*
13.	Blocks Originality (BO)	14.60[b]±08.79	13.39 [ab] ±09.10	09.23 [ab] ±05.52	09.09**
14.	Blocks Creativity (BC)	33.41 [ab]±18.44	36.94 [b]±20.30	28.16 [a]±14.38	04.56*
15.	Total Creativity (CY)	114.25 [ab]±54.44	124.70 [b]±55.21	89.67 [a]±43.85	08.91**

***, **:** Significant at 0.05 and 0.01 percent level of probability, respectively

Note: Means in the same row that do not share superscripts differ at p<0.05 using Duncan multiple difference comparison

Table 4 revealed the facts related to mean difference using ANOVA and Duncan Multiple Difference Comparison for the impact of academic class on the creativity of adolescents. Results showed highly significant differences for seeing problem (F=8.16, p<0.01), unusual uses fluency (F=10.82, p<0.01), consequences fluency (F=8.29, p<0.01), consequences originality(F=6.32, p<0.01),consequences creativity (F=8.24, p<0.01), persistency (F=11.83, p<0.01), blocks originality (F=9.09, p<0.01) and total creativity (F=8.91, p<0.01). Significant results were depicted in blocks fluency (F=4.89, p<0.05), blocks flexibility (F=5.72, p<0.05) and blocks creativity (F=4.56, p<0.05).

On the basis of mean scores the eighth class students were significantly better in seeing problem (22.29±9.94), unusual uses fluency (10.05±4.30) and blocks originality (14.60± 08.79) than their respective counterparts. While, ninth class students performed significantly better in consequences fluency (21.74 ± 9.20), consequences originality (17.96 ±09.04), consequences creativity (39.69 ±16.72), persistency (23.81 ±10.65), blocks fluency (6.03±2.13), blocks flexibility (11.44±06.35), blocks creativity (36.94±20.30) and total creativity (124.70 ±55.21).

Table 5: Comparison of creativity of respondents based on consecutive academic record

n=300

Sr. No.	Variables	Consecutive Academic Record			F- value
		85% to 87% (n=130) Mean ± S.D.	88% to 90%(n=103) Mean ± S.D.	91% and more(n=67) Mean ± S.D.	
1.	Seeing Problem (SP)	19.66 [a] ±08.84	22.95[b] ±10.12	21.04 [ab] ±08.60	3.64*
2.	Unusual Uses Fluency (UF)	09.38±04.78	09.45±04.47	09.19±03.80	0.06
3.	Unusual Uses Flexibility (UX)	07.73±04.37	07.83±04.52	06.79±03.62	1.39
4.	Unusual Uses Originality (UO)	26.80[b]±16.83	23.94 [ab]±15.50	20.64 [a] ±11.40	3.66*
5.	Unusual Uses Creativity (UC)	53.14[b]±28.55	49.17 [ab]±28.45	40.63 [a] ±23.92	4.56*
6.	Consequences Fluency (CF)	16.82 [a]±09.65	21.38[b]±08.30	18.45 [ab]±09.96	6.98**
7.	Consequences Originality (CO)	15.50±08.22	17.15±09.09	15.52±09.22	1.18
8.	Consequences Creativity (CC)	33.24±16.64	37.42±15.92	33.97±17.93	1.92
9.	Inquisitiveness (INQ)	03.80 [ab]±02.60	04.84[b]±02.37	03.03 [a]±02.55	11.16**
10.	Persistency (PER)	20.20 [ab] ±10.76	21.78[b] ±10.12	17.76 [a] ±10.14	3.03*
11.	Blocks Fluency (BF)	05.25±02.24	05.72±01.98	05.63±02.34	1.45
12.	Blocks Flexibility (BX)	09.55±06.03	10.94±05.38	10.31±06.44	1.62
13.	Blocks Originality (BO)	11.52 [b]±07.34	14.14 [a]±09.16	14.27 [a]±09.37	3.65*
14.	Blocks Creativity (BC)	30.45 [a]±18.66	35.58[ba]±17.46	36.34 [b]±19.45	3.23*
15.	Total Creativity (CY)	108.96 [ab]±56.09	124.64[b]±51.09	101.60[a]±53.75	4.26*

, *: Significant at 0.05 and 0.01 percent level of probability, respectively

Note: Means in the same row that do not share superscripts differ at p<0.05 using Duncan multiple difference comparison

Table 5 portrayed highly significant differences in consequences fluency (F=6.98, p<0.01) and inquisitiveness (F=11.16, p<0.01). Further, significant differences were found in seeing problem (F=3.64, p<0.05), unusual uses originality (F=3.66, p<0.05), unusual uses

creativity (F= 4.56, p<0.05), persistency (F=3.03, p<0.05), blocks originality (F=3.65, p<0.05), blocks creativity (F=3.23, p<0.05) and total creativity (F=4.26, p<0.05).

On the basis of mean scores the adolescents who scored 85% to 87% were significantly better in unusual uses originality (26.80±16.83) and unusual uses creativity (53.14±28.55) than their respective counterparts. Adolescents who scored 88% to 90% were significantly better in seeing problem (22.95±10.12), consequences fluency (21.38±8.30), inquisitiveness (4.84±2.37), persistency (21.78±10.12) and total creativity (124.64±51.09). Respondents who scored more than 91% performed significantly better in blocks originality (14.27±9.37) and blocks creativity (36.34±19.45).

Table 6: Comparison of creativity of respondents based on academic performance stress

n=300

Sr. No.	Variables	Academic Performance Stress			F- value
		Never (n=174) Mean ± S.D.	Sometimes (n=83) Mean ± S.D.	Always (n=43) Mean ± S.D.	
1.	Seeing Problem (SP)	22.32^{b} ±09.16	18.48^{a} ±09.17	19.53^{ab} ±09.13	5.46*
2.	Unusual Uses Fluency (UF)	09.77±04.34	09.10±04.61	08.23±04.48	2.27
3.	Unusual Uses Flexibility (UX)	07.54±04.33	07.55±04.25	07.60±04.17	0.04
4.	Unusual Uses Originality (UO)	23.12±14.54	27.94±18.01	24.60±12.37	2.78
5.	Unusual Uses Creativity (UC)	48.49±27.77	50.89±27.16	47.47±28.02	0.29
6.	Consequences Fluency (CF)	20.34^{b}±09.85	16.99^{a}±08.23	16.33^{a}±08.05	5.64*
7.	Consequences Originality (CO)	17.90^{b}±09.41	14.17^{ab}±07.48	12.33^{a}±06.08	10.28**
8.	Consequences Creativity (CC)	38.24^{b}±17.99	31.02^{ab}±14.23	28.44^{a} ±12.23	9.36**
9.	Inquisitiveness (INQ)	04.28^{b}±02.53	03.48^{a}±02.36	03.51^{ab}±02.63	3.59*
10.	Persistency (PER)	21.48±10.05	19.04±10.05	20.35±12.23	1.58
11.	Blocks Fluency (BF)	05.72±02.11	05.24±02.34	05.07±02.13	2.34
12.	Blocks Flexibility (BX)	10.75^{a} ±05.59	10.55^{ab}±06.65	08.09^{ba}±05.42	3.21*
13.	Blocks Originality (BO)	13.46±08.25	13.64±09.44	10.14±07.43	2.93
14.	Blocks Creativity (BC)	34.91^{b}±17.88	33.96^{ba}±20.16	27.09^{a}±17.22	3.13*
15.	Total Creativity (CY)	120.37^{b}±52.76	107.89^{ab}±55.53	90.70^{a}±50.09	5.83*

***, **:** Significant at 0.05 and 0.01 percent level of probability, respectively

Note: Means in the same row that do not share superscripts differ at p<0.05 using Duncan multiple difference comparison

Results depicted in Table 6 exhibited highly significant differences for consequences originality (F=10.28, p<0.01) and consequences creativity (F=9.36, p<0.01). Significant differences were observed in seeing problem (F=5.46, p<0.05), consequences fluency (F=5.64, p<0.05), inquisitiveness (F=3.59, p<0.05), blocks flexibility (F=3.21, p<0.05), blocks creativity (F= 3.13, p<0.05) and total creativity (F=5.83, p<0.05).

On the basis of mean scores the students who never felt academic performance stress performed significantly better in seeing problem (22.32±09.16), consequences fluency (20.34 ± 09.85), consequences originality (17.90 ± 09.41), consequences creativity

(38.24±17.99), inquisitiveness (4.28±2.53), blocks flexibility (10.55±5.59), blocks creativity (34.91±17.88) and total creativity (120.37 ±52.76) than their respective counterparts.

Table 7: Comparison of creativity of respondents based on role of parents for enhancement of creativity n=300

Sr. No.	Variables	Role of Parents in Adolescents' Creativity Enhancement			F-value
		High (n=87) Mean ± S.D.	Medium (n=95) Mean ± S.D.	Low (n=118) Mean ± S.D.	
1.	Seeing Problem (SP)	19.25[a]±08.70	23.72[b] ±09.78	19.75 [a] ±08.85	6.89**
2.	Unusual Uses Fluency (UF)	09.44[ab] ±04.46	10.47[b] ±04.45	08.42 [a] ±04.28	5.80*
3.	Unusual Uses Flexibility (UX)	06.91[a]±03.99	08.66[b] ±04.56	07.14 [ab] ±04.09	4.88*
4.	Unusual Uses Originality (UO)	22.30±11.65	26.48±17.34	24.95±16.04	1.72
5.	Unusual Uses Creativity (UC)	45.71[a]±25.94	54.49[b]±28.30	47.02 [ab]±27.72	5.03*
6.	Consequences Fluency (CF)	19.11±09.79	18.59±09.44	18.84±08.94	0.07
7.	Consequences Originality (CO)	15.22±07.54	16.72±09.99	16.18±08.56	0.68
8.	Consequences Creativity (CC)	34.09±16.22	35.31±18.20	35.01±16.02	0.13
9.	Inquisitiveness (INQ)	03.77±02.69	04.19±02.45	03.88±02.45	0.69
10.	Persistency (PER)	21.40±10.56	20.27±09.22	20.38±11.22	0.33
11.	Blocks Fluency (BF)	05.74±02.16	05.36±02.44	05.43±01.98	0.76
12.	Blocks Flexibility (BX)	10.67±06.32	10.74±06.04	09.42±05.48	1.70
13.	Blocks Originality (BO)	13.23±08.63	12.36±07.87	13.43±09.02	0.45
14.	Blocks Creativity (BC)	35.07±19.67	34.45±19.04	31.64±17.33	1.02
15.	Total Creativity (CY)	109.75±47.97	118.51±59.81	110.12±53.42	0.81

, *: Significant at 0.05 and 0.01 percent level of probability, respectively

Note: Means in the same row that do not share superscripts differ at $p<0.05$ using Duncan multiple difference comparison

Highly significant differences were illustrated in seeing problem ($F=6.89$, $p<0.01$). Significant differences were observed in unusual uses fluency ($F=5.80$, $p<0.05$), unusual uses flexibility ($F=4.88$, $p<0.05$) and unusual uses creativity ($F=5.03$, $p<0.05$).

On the basis of mean scores it was revealed that respondents whose parents paid medium attention performed significantly better in seeing problem (23.72 ±09.78), unusual uses fluency (10.47±04.45), unusual uses flexibility (8.66±04.56) and unusual uses creativity (54.49±28.30) than their respective counterparts.

Table 8: Comparison of creativity of respondents based on role of teachers for enhancement of creativity n=300

Sr. No.	Variables	Role of Teachers in Adolescents Creativity Enhancement			F- value
		High (n=33) Mean ± S.D.	Medium (n=110) Mean ± S.D.	Low (n=157) Mean ± S.D.	
1.	Seeing Problem (SP)	25.94[b] ±09.87	18.98 [a] ±09.12	21.04 [ab] ±09.27	7.23**
2.	Unusual Uses Fluency (UF)	11.03±04.32	09.15±03.99	09.16±04.74	2.62
3.	Unusual Uses Flexibility (UX)	07.97±04.46	07.65±04.23	07.40±04.28	0.28
4.	Unusual Uses Originality (UO)	24.15±16.02	24.27±13.91	25.05±16.32	0.10
5.	Unusual Uses Creativity (UC)	49.12[ba]±26.72	40.29 [a] ±25.62	50.89[b]±29.05	4.91*
6.	Consequences Fluency (CF)	16.82±08.63	19.05±09.30	19.11±09.48	0.87
7.	Consequences Originality (CO)	14.12±05.44	16.45±08.91	16.21±09.20	0.94
8.	Consequences Creativity (CC)	30.94±12.61	35.50±16.93	35.19±17.35	1.01
9.	Inquisitiveness (INQ)	03.36±02.28	04.05±02.66	03.99±02.46	1.08
10.	Persistency (PER)	24.00[b] ±10.42	16.81[a]±10.24	20.52 [ab] ±10.44	7.57**
11.	Blocks Fluency (BF)	05.70±02.72	05.28±02.15	05.61±02.09	0.86
12.	Blocks Flexibility (BX)	10.00±05.00	10.24±06.14	10.21±05.98	0.02
13.	Blocks Originality (BO)	13.70±07.62	12.46±08.10	13.29±09.05	0.41
14.	Blocks Creativity (BC)	30.39[a]±16.96	32.42 [ab]±19.31	38.96[b]±18.35	5.49*
15.	Total Creativity (CY)	115.79±53.97	107.97±54.57	115.30±53.78	0.66

***, **:** Significant at 0.05 and 0.01 percent level of probability, respectively

Note: Means in the same row that do not share superscripts differ at p<0.05 using Duncan multiple difference comparison

Highly significant differences were elucidated in seeing problem (F=7.23, p<0.01) and persistency (F= 7.57, p<0.01) whereas, significant differences were observed in unusual uses creativity (F= 4.91, p<0.05) and blocks creativity (F= 5.49, p<0.05).

On the basis of mean scores the students whose teachers made high level efforts were significantly better in seeing problem (25.94±09.87) and persistency (24.00±10.42) than their respective counterparts. Whereas, students whose teachers made least efforts were significantly better in unusual uses creativity (50.89±29.05) and blocks creativity (38.96±18.35).

Comparison of creativity of respondents based on teaching method employed by teachers

Table 9 displayed highly significant differences in consequences originality (F= 7.72, p<0.01). Significant differences were found in seeing problem (F= 4.17, p<0.05), unusual uses originality (F= 3.31, p<0.05), unusual uses creativity (F= 3.13, p<0.05), consequences creativity (F=5.14, p<0.05), persistency (F= 4.26, p<0.05), blocks fluency (F= 3.84, p<0.05) and blocks creativity (F= 5.19, p<0.05).

On the basis of mean scores the respondents whose teachers employed theoretical teaching method performed significantly better in seeing problem (23.37±09.16), persistency (22.68±9.99), blocks fluency (5.90±2.15), blocks originality (13.29±9.42) and blocks creativity (36.39±20.38). More influential performances existed where teachers implemented mixed teaching methods such as in unusual uses originality (26.98 ± 15.62), unusual uses creativity (58.87 ± 28.49), consequences originality (20.73±08.71) and consequences creativity (42.84±17.02) than their respective counterparts.

Table 9: Comparison of creativity of respondents based on teaching method employed by teachers n=300

Sr. No.	Variables	Teaching Method Employed by Teachers			F-value
		Theoretical (n=126) Mean ± S.D.	Demonstration (n=129) Mean ± S.D.	Mixed (n=45) Mean ± S.D.	
1.	Seeing Problem (SP)	23.37 [b] ±09.16	20.98 [ab] ±09.65	19.11 [a] ±08.55	4.17*
2.	Unusual Uses Fluency (UF)	09.62±04.41	08.98±04.57	09.73±04.25	0.83
3.	Unusual Uses Flexibility (UX)	07.25±03.96	07.49±04.37	08.60±04.74	1.70
4.	Unusual Uses Originality (UO)	22.01 [a]±14.30	26.46 [ba]±16.07	26.98 [b]±15.62	3.31*
5.	Unusual Uses Creativity (UC)	46.87 [a] ±25.31	50.10 [ab]±29.38	58.87 [b]±28.49	3.13*
6.	Consequences Fluency (CF)	18.69±09.37	18.81±09.30	19.33±09.43	0.08
7.	Consequences Originality (CO)	16.75 [ab]±09.24	14.83 [a] ±08.17	20.73 [b]±08.71	7.72**
8.	Consequences Creativity (CC)	35.42 [ab]±17.47	33.57 [a] ±15.94	42.84 [b]±17.02	5.14*
9.	Inquisitiveness (INQ)	03.95±02.66	03.77±02.32	04.44±02.65	1.20
10.	Persistency (PER)	22.68 [b]±09.99	19.14 [a]±10.20	19.24 [a]±11.35	4.26*
11.	Blocks Fluency (BF)	05.90 [b]±02.15	05.16 [a]±02.21	05.36 [a]±02.10	3.84*
12.	Blocks Flexibility (BX)	10.93±06.43	09.59±05.39	09.89±05.80	1.71
13.	Blocks Originality (BO)	13.29±09.42	12.76±07.77	13.09±08.24	0.13
14.	Blocks Creativity (BC)	38.39 [b]±20.38	31.70 [ab]±17.36	30.76 [a] ±15.70	5.19*
15.	Total Creativity (CY)	117.67±51.66	108.98±55.45	109.22±56.44	0.93

***, **:** Significant at 0.05 and 0.01 percent level of probability, respectively

Note: Means in the same row that do not share superscripts differ at p<0.05 using Duncan multiple difference comparison

Table 10: Comparison of creativity of respondents based on type of family n=300

Sr. No.	Variables	Type of Family			F- value
		Joint Family (n=148) Mean ± S.D.	Extended Family (n=67) Mean ± S.D.	Nuclear Family (n=85) Mean ± S.D.	
1.	Seeing Problem (SP)	21.49 [ab] ±09.38	18.08 [a] ±08.53	22.12 [b] ±09.40	3.33*
2.	Unusual Uses Fluency (UF)	09.86±04.17	09.30±04.81	08.84±04.51	3.85*
3.	Unusual Uses Flexibility (UX)	07.63±03.83	07.33±04.84	07.74±04.61	0.92
4.	Unusual Uses Originality (UO)	22.55 [a]±14.48	25.70 [ab]±15.67	29.91 [b]±16.52	6.23**
5.	Unusual Uses Creativity (UC)	55.34 [b]±26.79	44.76 [a] ±29.35	49.35 [ab]±27.98	3.65*
6.	Consequences Fluency (CF)	21.43 [b]±09.53	17.29 [a] ±08.96	18.87 [ab]±09.33	6.59**
7.	Consequences Originality (CO)	18.16 [b]±09.10	13.97 [a] ±07.92	15.93 [ab]±08.57	5.70*
8.	Consequences Creativity (CC)	30.51 [b]±17.51	31.08 [a] ±15.64	34.81 [ab]±16.17	4.75*
9.	Inquisitiveness (INQ)	04.11±02.71	03.32±02.19	04.00±02.34	2.96
10.	Persistency (PER)	20.25±10.23	20.10±11.00	21.92±10.21	0.74
11.	Blocks Fluency (BF)	05.47±02.19	05.54±02.22	05.53±02.22	0.09
12.	Blocks Flexibility (BX)	10.84±06.14	10.37±06.39	09.19±05.05	2.38
13.	Blocks Originality (BO)	13.31 [ab]±08.48	16.57 [b]±08.48	11.82 [a]±08.56	6.04**
14.	Blocks Creativity (BC)	34.32±18.89	34.37±19.51	31.86±17.62	0.56
15.	Total Creativity (CY)	117.89±53.36	109.40±55.34	109.21±53.31	2.83

***, **:** Significant at 0.05 and 0.01 percent level of probability, respectively

Note: Means in the same row that do not share superscripts differ at p<0.05 using Duncan multiple difference comparison

Results showed that highly significant differences existed in unusual uses originality (F= 6.23, p<0.01), consequences fluency (F= 6.59, p<0.01) and blocks originality (F= 6.04, p<0.01). Significant differences were depicted in seeing problem (F=3.33, p<0.05), unusual uses fluency (F=3.85, p<0.05), unusual uses creativity (F=3.65, p<0.05), consequences originality (F= 5.70, p<0.05) and consequences creativity (F= 4.75, p<0.05).

On the basis of mean scores the adolescents who had joint families were significantly better in unusual uses fluency (9.86 ± 4.17), unusual uses creativity (56.34 ± 26.79), consequences fluency (21.43 ± 09.53), consequences originality (18.16 ± 09.10) and consequences creativity (38.51 ± 17.51). Adolescents who had extended families scored significantly better in blocks originality (16.57±08.48) than their respective counterparts. Adolescents who had nuclear families performed significantly extra ordinary in seeing problem (22.12 ±09.40) and unusual uses originality (29.91±16.52).

Table 11: Comparison of creativity of respondents based on parenting style adopted by the parents n=300

Sr. No.	Variables	Parenting Style Adopted by the Parents				F- value
		Authoritative (n=80) Mean ± S.D.	Authoritarian (n=30) Mean ± S.D.	Permissive (n=138) Mean ± S.D.	Neglectful (n=52) Mean ± S.D.	
1.	Seeing Problem	19.63±08.81	20.97±10.18	21.61±09.46	20.71±09.10	0.77
2.	Unusual Uses Fluency	08.57±04.35	10.30±05.18	09.53±04.31	09.60±04.52	1.39
3.	Unusual Uses Flexibility	05.95^{a}±03.32	10.00^{b} ±05.17	07.77^{ab} ±04.31	08.04^{ba} ±04.10	7.78**
4.	Unusual Uses Originality	21.01^{a}±11.45	26.07^{ba}±16.18	25.31^{ba}±16.11	29.77^{b}±17.55	3.57*
5.	Unusual Uses Creativity	38.86^{a}±21.23	59.10^{b}±31.28	50.36^{ba}±28.48	55.19^{ba}±27.54	6.24**
6.	Consequences Fluency	17.69±08.64	18.77±09.55	19.77±09.55	18.19±09.59	0.95
7.	Consequences Originality	15.46±08.23	14.57±08.41	16.90±09.14	15.67±08.74	0.87
8.	Consequences Creativity	33.14±15.98	33.00±16.47	36.66±17.23	33.67±16.74	1.02
9.	Inquisitiveness	04.16±02.66	04.27±02.58	03.71±02.36	04.06±02.68	0.79
10.	Persistency	20.96±09.72	21.17±11.03	20.33±10.17	20.69±11.86	0.09
11.	Blocks Fluency	05.41±02.01	05.77±02.06	05.58±02.39	05.25±01.96	0.48
12.	Blocks Flexibility	10.69±05.83	09.70±06.80	10.27±05.95	09.54±05.52	0.47
13.	Blocks Originality	11.25^{a}±07.68	12.97^{ab}±08.93	13.63^{ba}±09.05	16.23^{b}±07.99	3.68*
14.	Blocks Creativity	40.61^{b}±18.54	31.37^{ab}±18.77	34.10^{ba}±19.29	30.04^{a}±16.36	4.16*
15.	Total Creativity	105.51^{a}±51.94	139.63^{b}±61.94	110.69^{ba}±54.42	112.94^{ba}±51.65	3.01*

***, **:** Significant at 0.05 and 0.01 percent level of probability, respectively

Note: Means in the same row that do not share superscripts differ at p<0.05 using Duncan multiple difference comparison

Highly significant differences were observed in unusual uses flexibility (F=7.78, p<0.01) and unusual uses creativity (F=6.24, p<0.01). Significant differences were examined in unusual uses originality (F=3.57, p<0.05), blocks originality (F=3.68, p<0.05), blocks creativity (F= 4.16, p<0.05) and total creativity (F= 3.01, p<0.05).

On the basis of mean scores the adolescents whose parents adopted authoritative parenting style were significantly superior in blocks creativity (40.61±18.54) than their respective counterparts. While, adolescents whose parents adopted authoritarian parenting style were significantly better in unusual uses flexibility (10.00 ±05.17), unusual uses creativity (59.10±31.28) and total creativity (139.63±61.94). While, adolescents whose parents adopted neglectful parenting style performed significantly better in unusual uses originality (29.77 ± 17.55) and blocks originality (16.23 ± 07.99) than their respective counterparts.

Table 12: Comparison of creativity of respondents based on type of mass media used

n=300

Sr. No.	Variables	Type of Mass Media Used				F-value
		Print Media (n=22) Mean ± S.D.	Audio Media (n=6) Mean ± S.D.	Audio- Visual Media (n=249) Mean ± S.D.	Interactive Media (n=23) Mean ± S.D.	
1.	Seeing Problem	19.27±10.81	21.83±06.17	21.12±09.25	19.26±09.04	0.53
2.	Unusual Uses Fluency	08.77^{ab} ±04.54	06.33^{a} ±03.14	09.39^{ba} ±04.48	12.17^{b} ±04.38	4.00*
3.	Unusual Uses Flexibility	06.45±03.77	06.17±03.54	07.55±04.22	09.04±05.17	1.64
4.	Unusual Uses Originality	22.95^{a}±14.64	25.67^{ab}±03.67	24.32^{ab}±15.30	36.78^{b}±18.56	4.76*
5.	Unusual Uses Creativity	44.05 ^{ab}±24.04	30.83^{a}±18.36	49.79 ^{ab}±27.99	66.43^{b}±27.96	4.02*
6.	Consequences Fluency	17.82^{ab}±07.96	15.83^{a}±08.93	18.80^{ba}±09.50	26.00^{b}±08.74	4.64*
7.	Consequences Originality	15.05±08.54	14.67±05.46	16.14±08.92	16.65±08.22	0.19
8.	Consequences Creativity	32.86^{ab}±15.28	30.50^{a}±14.15	34.86 ^{ab}±17.14	47.61^{b}±14.68	4.46*
9.	Inquisitiveness	03.00±01.77	04.50±02.25	04.02±02.60	03.87±02.22	1.22
10.	Persistency	23.50±10.34	22.67±13.56	20.13±10.38	22.96±09.80	1.21
11.	Blocks Fluency	05.00±02.18	05.00±00.89	05.54±02.24	05.65±01.74	0.55
12.	Blocks Flexibility	10.77±06.42	10.50±04.23	10.29±05.98	08.61±05.22	0.64
13.	Blocks Originality	13.27±07.65	13.33±08.80	13.10±08.59	12.00±09.30	0.12
14.	Blocks Creativity	45.00^{b}±18.09	35.83^{ab}±12.89	34.01 ^{ab}±18.75	26.30^{a}±17.84	3.90*
15.	Total Creativity	107.64^{ba}±56.70	83.17^{a}±48.56	133.93^{b}±53.38	111.52^{ba}±60.58	4.06*

***, **:** Significant at 0.05 and 0.01 percent level of probability, respectively

Note: Means in the same row that do not share superscripts differ at p<0.05 using Duncan multiple difference comparison

Significant differences were noticed in unusual uses fluency (F= 4.00, p<0.05), unusual uses originality (F= 4.76, p<0.05), unusual uses creativity (F= 4.02, p<0.05), consequences fluency (F= 4.64, p<0.05), consequences creativity (F= 4.46, p<0.05), blocks creativity (F= 3.90, p<0.05) and total creativity (F= 4.06, p<0.05).

On the basis of mean scores the adolescents who employed audio media were significantly better in blocks creativity (45.83±12.89) and adolescents who employed audio-visual media performed significantly better in total creativity (133.93±53.38). Adolescents who used interactive mass media were significantly superior in unusual uses fluency

(12.17±04.38), unusual uses originality (36.78 ± 18.56), unusual uses creativity (66.43 ± 27.96), consequences fluency (26.00 ± 08.74) and consequences creativity (47.61±14.68).

Table 13: Mean differences in adolescents creativity on the basis of gender n=300

Sr. no.	Variables	Gender		Z-value
		Boys (n= 150) Mean ± SD	Girls (n=150) Mean ± SD	
1.	Seeing Problem (SP)	20.37±09.38	21.35±09.21	0.92
2.	Unusual Uses Fluency (UF)	08.75±04.54	09.97±04.30	2.39*
3.	Unusual Uses Flexibility (UX)	07.01±04.09	08.09±04.40	2.20*
4.	Unusual Uses Originality (UO)	24.08±14.38	25.25±16.38	0.66
5.	Unusual Uses Creativity (UC)	45.54±26.53	55.47±28.25	3.14**
6.	Consequences Fluency (CF)	18.56±09.23	19.12±09.43	0.52
7.	Consequences Originality (CO)	15.44±08.68	16.70±08.82	1.25
8.	Consequences Creativity (CC)	33.86±16.49	39.81±17.00	3.08**
9.	Inquisitiveness (INQ)	04.24±02.60	03.65±02.41	2.02*
10.	Persistency (PER)	19.62±10.35	26.67±10.40	5.89**
11.	Blocks Fluency (BF)	05.71±02.08	05.29±02.27	1.67
12.	Blocks Flexibility (BX)	10.45±05.52	09.95±06.31	0.73
13.	Blocks Originality (BO)	11.95±07.95	14.12±09.00	2.22*
14.	Blocks Creativity (BC)	38.53±17.24	32.52±19.83	2.80*
15.	Total Creativity (CY)	104.81±51.11	124.52±55.87	3.19**

***, **:** Significant at 0.05 and 0.01 percent level of probability, respectively

Table 13 portrayed highly significant differences in unusual uses creativity (Z= 3.14, p<0.01), consequences creativity (Z= 3.08, p<0.01), persistency (Z= 5.89, p<0.01) and total creativity (Z= 3.19, p<0.01). Significant differences were examined in adolescents unusual uses fluency (Z= 2.39, p<0.05), unusual uses flexibility (Z= 2.20, p<0.05), inquisitiveness (Z= 2.02, p<0.05), blocks originality (Z=2.22, p<0.05) and blocks creativity (Z= 2.80, p<0.05).

On the mean scores females outscored males in unusual uses fluency (9.97±4.30), unusual uses flexibility (8.09±4.40), unusual uses creativity (55.47±28.25), consequences creativity (39.81±17.00), persistency (26.67±10.40), blocks originality (14.12±09.00) and total creativity (124.52±55.87). Whereas, in inquisitiveness (4.24±2.60) and blocks creativity (38.53±17.24) males were more creative against their counterparts.

Mean differences in adolescents' creativity on the basis of school type

Highly significant differences were observed in adolescents seeing problem (Z=3.96, p<0.01), unusual uses fluency (Z=3.33, p<0.01),unusual uses originality(Z=4.06, p<0.01), consequences fluency (Z=3.64, p<0.01), consequences originality (Z=3.83, p<0.01), consequences creativity (Z=4.11, p<0.01), blocks flexibility (Z=3.61, p<0.01), blocks

creativity (Z=3.57, p<0.01)and total creativity (Z=3.44, p<0.01). Significant differences were elucidated in respondents blocks fluency (Z= 2.64, p<0.05) and inquisitiveness scores (Z=2.82, p<0.05).

On the basis of mean scores the private school students performed significantly better in seeing problem (22.93±09.33), unusual uses fluency (10.21±04.12), consequences fluency (20.76 ± 09.77), consequences originality (17.97 ± 09.58), consequences creativity (38.71±18.18), blocks fluency (5.83±2.21), blocks flexibility (11.41±05.98), blocks creativity (37.29±19.21) and total creativity (123.20±52.30). Whereas, in unusual uses originality (28.19±17.08) and inquisitiveness (04.35±02.56) Govt. school students scored significantly better as compared to the private school students.

Table 14: Mean differences in adolescents creativity on the basis of school type

n=300

Sr. no.	Variables	Type of School		Z-value
		Govt. School (n= 150) Mean ± SD	Private School (n= 150) Mean ± SD	
1.	Seeing Problem (SP)	18.79±08.80	22.93±09.33	3.96**
2.	Unusual Uses Fluency (UF)	08.52±04.63	10.21±04.12	3.33**
3.	Unusual Uses Flexibility (UX)	07.73±04.49	07.38±04.05	0.70
4.	Unusual Uses Originality (UO)	28.19±17.08	21.15±12.61	4.06**
5.	Unusual Uses Creativity (UC)	50.69±28.49	47.32±26.62	1.06
6.	Consequences Fluency (CF)	16.92±08.46	20.76±09.77	3.64**
7.	Consequences Originality (CO)	14.17±07.41	17.97±09.58	3.83**
8.	Consequences Creativity (CC)	30.96±14.22	38.71±18.18	4.11**
9.	Inquisitiveness (INQ)	04.35±02.56	03.54±02.42	2.82*
10.	Persistency (PER)	19.53±10.77	21.76±09.94	1.87
11.	Blocks Fluency (BF)	05.17±02.12	05.83±02.21	2.64*
12.	Blocks Flexibility (BX)	08.99±05.63	11.41±05.98	3.61**
13.	Blocks Originality (BO)	12.37±08.27	13.70±08.79	1.35
14.	Blocks Creativity (BC)	29.77±17.18	37.29±19.21	3.57**
15.	Total Creativity (CY)	102.13±53.85	123.20±52.30	3.44**

***, **:** Significant at 0.05 and 0.01 percent level of probability, respectively

4.5 Impact of acceleration program on creativity among adolescents

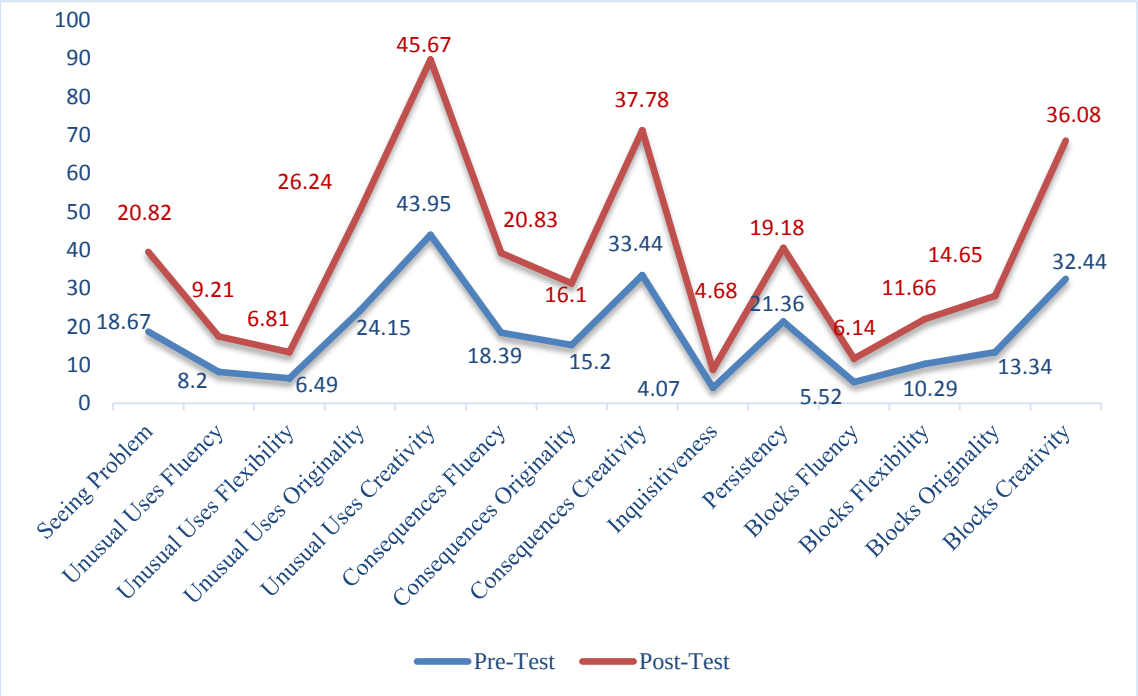

Figure 4: Pre and post-testing comparison of creativity among experimental group of adolescents

Pre and post-testing comparison of creativity among experimental group of adolescents

Table 15 portrayed highly significant differences for consequences fluency (t= 2.52, p<0.01), consequences creativity (t= 2.51, p<0.01), inquisitiveness (t= 2.65, p<0.01) and blocks fluency (t= 2.89, p<0.01), whereas, significant differences were found in seeing problem (t= 2.35, p<0.05), unusual uses fluency (t= 2.36, p<0.05), persistency (t= 2.27, p<0.05), blocks flexibility (t= 2.30, p<0.05), blocks creativity(t= 2.02, p<0.05) and total creativity (t= 2.47, p<0.05).

Non-significant differences were observed in the remaining variables such as, unusual uses originality, unusual uses flexibility, unusual uses creativity, consequences originality and blocks originality.

This revealed significant increase in the scores of respondents in posttests scores over pretest scores of some sub aspects of creativity, such as, consequences fluency (+13.26%), consequences creativity (+12.98%), inquisitiveness (+14.98%), blocks fluency (+11.23%), seeing problem (+11.51%), unusual uses fluency (+12.31%), unusual uses originality (+8.65%), persistency (-10.20%), blocks flexibility (+13.31%), blocks creativity(+11.22%) and total creativity (+12.45%).

Non-significant increase in the scores of respondents in posttests scores over pretest scores was observed in unusual uses flexibility (+ 4.93%), unusual uses creativity (+ 3.91%), consequences originality (+ 5.92%) and blocks originality (+ 9.82%).

Table 15: Pre and post-testing comparison of creativity among experimental group of adolescents (n=150)

Sr. No.	Variables	Pre-Test (Mean ± S.D.)	Post-Test (Mean ± S.D.)	Increase/ Decrease (%)	Paired 't' Value
1.	Seeing Problem (SP)	18.67±08.76	20.82±06.97	+11.51	2.35*
2.	Unusual Uses Fluency (UF)	08.20±04.19	09.21±03.49	+12.31	2.36*
3.	Unusual Uses Flexibility (UX)	06.49±03.77	06.81±03.17	+4.93	0.74
4.	Unusual Uses Originality (UO)	24.15±13.11	26.24±15.57	+8.65	1.26
5.	Unusual Uses Creativity (UC)	43.95±26.99	45.67±20.29	+3.91	0.63
6.	Consequences Fluency (CF)	18.39±09.68	20.83±07.13	+13.26	2.52**
7.	Consequences Originality (CO)	15.20±08.50	16.10±05.54	+5.92	1.10
8.	Consequences Creativity (CC)	33.44±16.86	37.78±12.81	+12.98	2.51**
9.	Inquisitiveness (INQ)	04.07±02.52	04.68±01.51	+14.98	2.65**
10.	Persistency (PER)	21.36±10.16	19.18±06.22	-10.20	2.27*
11.	Blocks Fluency (BF)	05.52±02.25	06.14±01.35	+11.23	2.89**
12.	Blocks Flexibility (BX)	10.29±05.77	11.66±04.44	+13.31	2.30*
13.	Blocks Originality (BO)	13.34±08.76	14.65±06.46	+9.82	1.50
14.	Blocks Creativity (BC)	32.44±18.11	36.08±12.95	+11.22	2.02*
15.	Total Creativity (CY)	99.60±55.57	112.01±26.77	+12.45	2.47*

***, **:** Significant at 0.05 and 0.01 percent level of probability, respectively.

Pre and post-testing comparison of creativity among experimental group adolescents based on their gender

Results portrayed in Table 16 revealed highly significant differences for boys in the blocks fluency ($t= 2.64$, $p<0.01$) and significant differences were found in the following sub-domains of creativity, i.e., seeing problem ($t= 1.98$, $p<0.05$), consequences fluency ($t= 1.97$, $p<0.05$), blocks flexibility ($t= 2.20$, $p<0.05$) and total creativity ($t= 1.96$, $p<0.05$). Whereas, no significant differences were found in the other sub-aspects of creativity such as, unusual uses flexibility, unusual uses originality, unusual uses fluency, unusual uses creativity, consequences originality, consequences creativity, inquisitiveness, persistency, blocks originality and blocks creativity.

Significant increase was recorded in post test scores of male respondents over pre test scores in blocks fluency (+13.60%), seeing problem (+14.90%), consequences fluency (+14.90%), blocks flexibility (+14.70%) and total creativity (+14.30%).

Whereas, non- significant increase was found in the other remaining sub-aspects of creativity i.e., unusual uses fluency (+ 9.53%), unusual uses flexibility (+ 7.01%), unusual uses originality (+ 4.61%), unusual uses creativity (+5.54%), consequences originality (+10.35%),

consequences creativity (+6.31%), inquisitiveness (+8.38%), persistency (-1.39%), blocks originality (+8.61%) and blocks creativity (+ 5.92%).

Results elucidated significant differences for girls in four sub-domains of creativity, i.e., seeing problem (t= 2.20, p<0.05), consequences originality (t= 2.01, p<0.05), blocks fluency (t= 2.23, p<0.05) and total creativity (t= 2.00, p<0.05). While, non-significant differences were observed in various sub-domains of creativity such as, unusual uses fluency, unusual uses flexibility, unusual uses originality, unusual uses creativity, consequences fluency, consequences creativity, inquisitiveness, persistency, blocks flexibility, blocks originality and blocks creativity.

Significant increase in post test scores of female respondents over pre test scores were observed in seeing problem (+13.50%), consequences originality (+14.80%), blocks fluency (+12.64 %) and total creativity (+13.60%).

While, non-significant increases in post test scores of female respondents over pre test scores were found in various sub-domains of creativity such as, unusual uses fluency (+11.25%), unusual uses flexibility (+8.24%), unusual uses originality (+8.23%), unusual uses creativity (+4.68%), consequences fluency (+6.48%), consequences creativity (+4.79%), inquisitiveness(+11.17%), persistency (-9.19%), blocks flexibility (+10.50%), blocks originality (+10.89%) and blocks creativity(+3.44%).

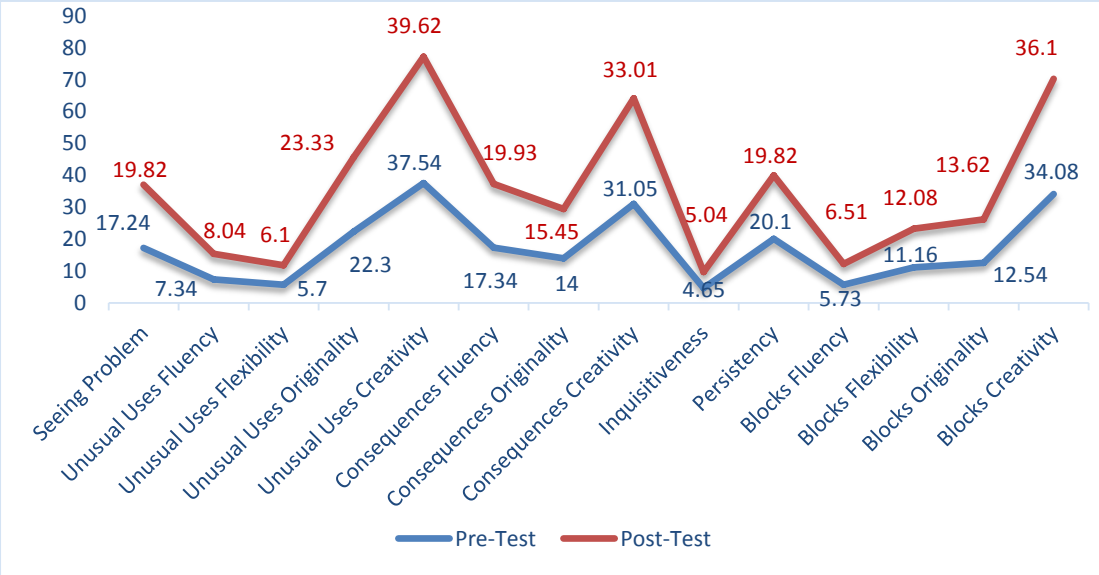

Figure 5: Pre and post-testing comparison of creativity among experimental group of adolescent boys

Table 16: Pre and post-testing comparison of creativity among experimental group adolescents based on their gender (n=150)

S. No.	Variables	Boys (n=75)		Increase/ Decrease (%)	Paired 't' Value	Girls (n=75)		Increase/ Decrease (%)	Paired 't' Value
		Pre-Test (Mean ± S.D.)	Post-Test (Mean ± S.D.)			Pre-Test (Mean ± S.D.)	Post-Test (Mean ± S.D.)		
1.	Seeing Problem (SP)	17.24±08.76	19.82±07.13	+ 14.90	1.98*	20.10±08.58	22.83±06.29	+ 13.50	2.20*
2.	Unusual Uses Fluency (UF)	07.34±03.90	08.04±03.55	+ 9.53	1.17	09.06±04.32	10.08±03.39	+ 11.25	1.61
3.	Unusual Uses Flexibility (UX)	05.70±03.12	06.10±03.22	+ 7.01	0.82	07.28±04.20	07.88±03.07	+ 8.24	0.78
4.	Unusual Uses Originality (UO)	22.30±08.92	23.33±14.98	+ 4.61	0.51	26.01±16.11	28.14±15.71	+ 8.23	0.83
5.	Unusual Uses Creativity (UC)	37.54±20.55	39.62±19.12	+ 5.54	0.64	50.36±31.01	52.72±21.10	+ 4.68	0.55
6.	Consequences Fluency (CF)	17.34±09.31	19.93±06.58	+ 14.90	1.97*	19.44±09.98	20.70±07.69	+ 6.48	0.87
7.	Consequences Originality (CO)	14.00±07.78	15.45±05.71	+ 10.35	1.30	16.41±09.05	18.85±05.32	+ 14.80	2.01*
8.	Consequences Creativity (CC)	31.05±15.72	33.01±13.97	+ 6.31	0.80	35.84±17.72	37.56±11.36	+ 4.79	0.71
9.	Inquisitiveness (INQ)	04.65±02.65	05.04±01.53	+ 8.38	1.15	03.49±02.25	03.88±01.49	+ 11.17	1.26
10.	Persistency (PER)	20.10±10.08	19.82±06.31	- 1.39	0.20	22.62±10.16	20.54±06.16	- 9.19	1.52
11.	Blocks Fluency (BF)	05.73±02.23	06.51±01.25	+ 13.60	2.64**	05.30±02.27	05.97±01.44	+ 12.64	2.23*
12.	Blocks Flexibility (BX)	11.16±05.14	12.08±03.88	+ 14.70	2.20*	09.42±06.25	10.41±04.73	+ 10.50	1.10
13.	Blocks Originality (BO)	12.54±8.54	13.62±06.90	+ 8.61	0.86	14.14±08.88	15.68±06.03	+ 10.89	1.25
14.	Blocks Creativity (BC)	34.08±17.56	36.10±12.58	+ 5.92	0.81	30.80±18.61	31.86±13.36	+ 3.44	0.40
15.	Total Creativity (CY)	88.49±50.19	101.17±24.76	+ 14.30	1.96*	110.70±58.73	125.8±28.68	+ 13.60	2.00*

***, **:** Significant at 0.05 and 0.01 percent level of probability, respectively.

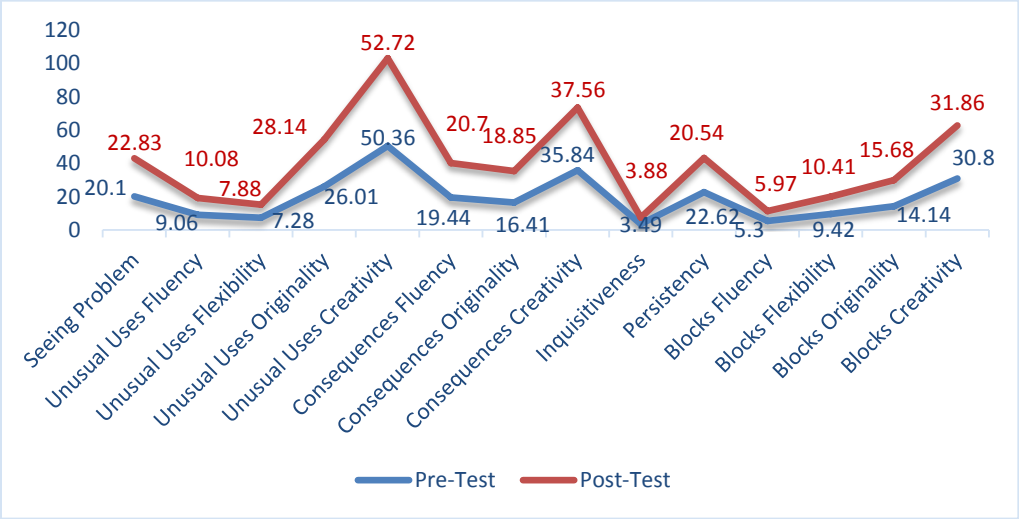

Figure 6: Pre and post-testing comparison of creativity among experimental group of adolescent girls

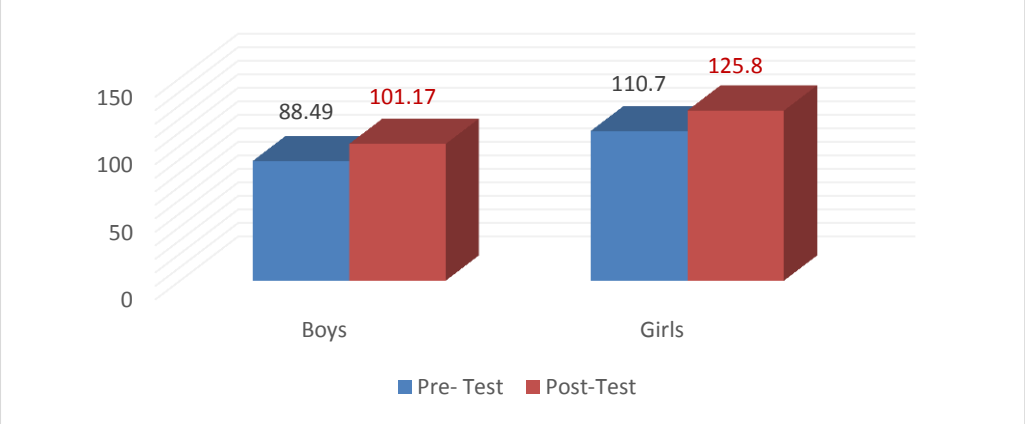

Figure 7: Pre and post-testing comparison of total creativity among experimental group of adolescents based on their gender

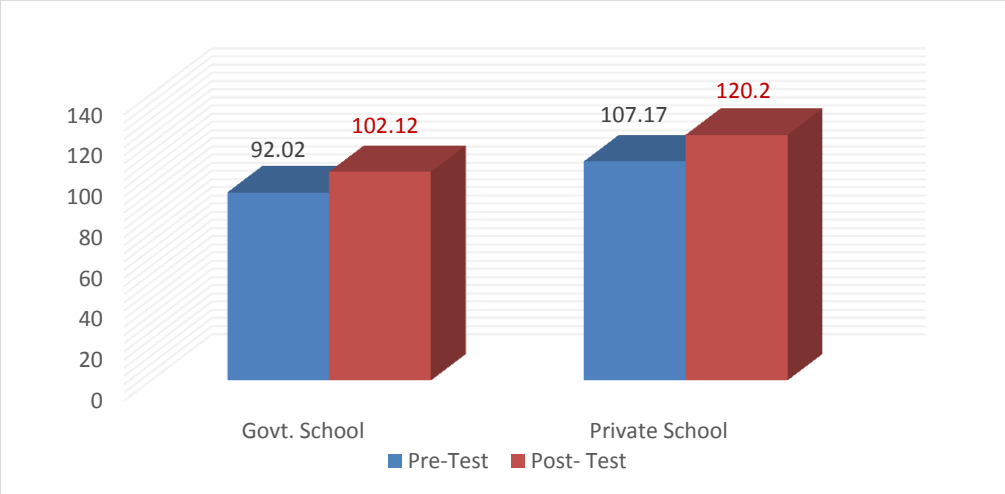

Figure 8: Pre and post-testing comparison of total creativity among experimental group of adolescents based on their school type

Pre and post-testing comparison of creativity among experimental group adolescents based on their school type

Table 17 explicated pre-testing and post-testing comparison of creativity among experimental group adolescents based on their school. Results pertaining to Govt. schools illustrated significant differences for seeing problem ($t= 1.97$, $p< 0.05$), unusual uses fluency ($t= 1.99$, $p< 0.05$), unusual uses creativity ($t= 2.11$, $p< 0.05$), consequences fluency ($t= 1.97$, $p< 0.05$), consequences creativity ($t= 2.41$, $p< 0.05$), inquisitiveness ($t= 1.96$, $p< 0.05$) and blocks fluency ($t= 2.11$, $p< 0.05$). Whereas, no significant differences were found in the other sub-aspects of creativity such as, unusual uses flexibility, unusual uses originality, consequences originality, persistency, blocks flexibility, blocks originality, blocks creativity and total creativity.

Significant increase in post test scores of Govt. school students over pre test scores were observed in seeing problem (+14.27%), unusual uses fluency (+15.30%),unusual uses creativity (+14.90%), consequences fluency (+15.29%),consequences creativity (+14.66%), inquisitiveness (+14.88%) and blocks fluency (+11.13%).

Non-significant increase in post test scores of Govt. school students over pre test scores were revealed in unusual uses flexibility (+8.28%), unusual uses originality (+7.37%), consequences originality (+5.59%), persistency (- 4.61%), blocks flexibility (+5.44%), blocks originality (+8.97%), blocks creativity (+7.25%) and total creativity (+10.97%).

Results regarding private schools showed significant differences in various sub-aspects of creativity i.e., seeing problem ($t= 2.10$, $p< 0.05$), unusual uses fluency ($t= 2.07$, $p< 0.05$), consequences originality ($t= 2.01$, $p< 0.05$), blocks fluency ($t= 2.69$, $p< 0.05$) and total creativity ($t= 1.99$, $p< 0.05$). Whereas, non-significant differences were portrayed in unusual uses flexibility, unusual uses originality, unusual uses creativity, consequences fluency, consequences creativity, inquisitiveness, persistency, blocks flexibility, blocks originality and blocks creativity.

Significant increase was recorded in post test scores of private school respondents over pre test scores in seeing problem (+13.90%), unusual uses fluency (+14.50%), consequences originality (+14.70%), blocks fluency (+14.80%)and total creativity (+12.10%).

Non-significant increase was observed in post test scores of private school students over pre test scores in unusual uses flexibility (+12.62%), unusual uses originality (+10.51%), unusual uses creativity (+6.00%), consequences fluency (+4.31%),consequences creativity (+6.24%), inquisitiveness (+8.59%), persistency (-6.37%),blocks flexibility (+7.49%), blocks originality (+10.47%) and blocks creativity (+8.34%).

Table 17: Pre and post-testing comparison of creativity among experimental group adolescents based on their school type

(n=150)

Sr. No.	Variables	Govt. School (n=75)		Increase/ Decrease (%)	Paired 't' Value	Private School (n=75)		Increase/ Decrease (%)	Paired 't' Value
		Pre-Test (Mean ± S.D.)	Post-Test (Mean ± S.D.)			Pre-Test (Mean ± S.D.)	Post-Test (Mean ± S.D.)		
1.	Seeing Problem (SP)	18.21±09.17	20.81±06.81	+ 14.27	1.97*	19.13±08.37	21.80±07.18	+ 13.94	2.10*
2.	Unusual Uses Fluency (UF)	07.80±04.46	09.00±03.59	+ 15.30	1.99*	08.53±03.91	09.77±03.38	+ 14.50	2.07*
3.	Unusual Uses Flexibility (UX)	06.88±04.03	07.45±03.23	+ 8.28	0.98	06.10±03.47	06.87±03.13	+ 12.62	1.60
4.	Unusual Uses Originality (UO)	28.61±15.94	30.72±14.93	+ 7.37	0.84	19.69±07.20	21.76±15.90	+ 10.51	1.03
5.	Unusual Uses Creativity (UC)	46.61±28.78	53.57±22.88	+ 14.90	2.11*	41.29±24.99	43.77±17.48	+ 6.00	0.71
6.	Consequences Fluency (CF)	16.61±08.38	19.15±07.40	+ 15.29	1.97*	20.17±10.58	21.04±06.15	+ 4.31	0.62
7.	Consequences Originality (CO)	13.41±07.10	14.16±05.87	+ 5.59	0.63	17.00±09.41	19.50±05.18	+ 14.70	2.01*
8.	Consequences Creativity (CC)	29.74±13.82	34.10±12.98	+ 14.66	2.41*	37.14±18.81	39.46±12.50	+ 6.24	0.90
9.	Inquisitiveness (INQ)	04.30±02.48	04.94±01.36	+ 14.88	1.96*	03.84±02.55	04.17±01.62	+ 8.59	0.35
10.	Persistency (PER)	21.22±10.11	20.24±06.47	- 4.61	0.72	21.50±10.28	20.13±06.01	- 6.37	0.99
11.	Blocks Fluency (BF)	05.30±02.20	05.89±01.22	+ 11.13	2.11*	05.73±02.30	06.58±01.47	+ 14.80	2.69**
12.	Blocks Flexibility (BX)	09.37±05.34	9.88±03.95	+ 5.44	0.67	11.21±06.07	12.05±04.90	+ 7.49	0.93
13.	Blocks Originality (BO)	12.37±08.28	13.48±06.22	+ 8.97	0.93	14.32±09.09	15.82±06.73	+ 10.47	1.15
14.	Blocks Creativity (BC)	29.89±16.87	32.06±13.83	+ 7.25	0.86	34.98±19.05	37.90±12.02	+ 8.34	1.13
15.	Total Creativity (CY)	92.02±59.41	102.12±28.59	+ 10.97	1.33	107.17±50.72	120.20±25.02	+ 12.01	1.99*

***, **:** Significant at 0.05 and 0.01 percent level of probability, respectively.

4.6 Correlations between dependent variables

Table 18 indicated that seeing problem was highly, positively and significantly correlated with unusual uses fluency (r= 0.48, p<0.01), unusual uses flexibility (r= 0.38, p<0.01), unusual uses originality (r= 0.29, p<0.01), unusual uses creativity (r= 0.37, p<0.01), consequences fluency (r= 0.43, p<0.01), consequences originality (r= 0.44, p<0.01), consequences creativity (r= 0.45, p<0.01), blocks fluency (r= 0.20, p<0.01), blocks flexibility (r= 0.18, p<0.01), blocks creativity (r= 0.19, p<0.01) and total creativity (r= 0.44, p<0.01). Seeing problem was negatively correlated with inquisitiveness (r= -0.03, p<0.01) and persistency (r= -0.08, p<0.01).

Adolescents' unusual uses fluency was highly, positively and significantly correlated with unusual uses flexibility (r= 0.80, p<0.01), unusual uses originality (r= 0.69, p<0.01), unusual uses creativity (r= 0.79, p<0.01), consequences fluency (r= 0.30, p<0.01), consequences originality (r= 0.35, p<0.01), consequences creativity (r= 0.34, p<0.01), blocks fluency (r= 0.22, p<0.01), blocks flexibility (r= 0.17, p<0.01), blocks originality (r= 0.15, p<0.01), blocks creativity (r= 0.18, p<0.01) and total creativity (r= 0.56, p<0.01). Unusual uses fluency was highly, negatively significantly correlated with inquisitiveness (r= -0.17, p<0.01) and it was negatively correlated with persistency (r= -0.04, p<0.01).

Respondents' unusual uses flexibility was found to be highly, positively and significantly correlated with unusual uses originality (r= 0.84, p<0.01), unusual uses creativity (r= 0.96, p<0.01), consequences fluency (r=0.29, p<0.01), consequences originality (r= 0.36, p<0.01), consequences creativity (r= 0.34, p<0.01), blocks fluency (r= 0.20, p<0.01), blocks flexibility (r= 0.17, p<0.01), blocks originality (r= 0.18, p<0.01), blocks creativity (r= 0.19, p<0.01) and total creativity (r= 0.62, p<0.01). Unusual uses flexibility was negatively correlated with inquisitiveness (r= -0.06, p<0.01) and persistency (r= -0.03, p<0.01).

Young adolescents' unusual uses originality was highly, positively and significantly correlated with unusual uses creativity (r= 0.88, p<0.01), consequences fluency (r= 0.24, p<0.01), consequences originality (r= 0.32, p<0.01), consequences creativity (r= 0.30, p<0.01) and total creativity (r=, p<0.01). It was positively and significantly correlated with blocks fluency (r= 0.13, p<0.05). Unusual uses originality was negatively correlated with inquisitiveness (r= -0.04, p<0.01) and persistency (r= -0.05, p<0.01), while, it was positively correlated with blocks flexibility (r= 0.08, p<0.01), blocks originality (r= 0.07, p<0.01) and blocks creativity (r= 0.10, p<0.01).

Table 18: Correlations between dependent variables **n=300**

Creativity Dimensions	SP	UF	UX	UO	UC	CF	CO	CC	INQ	PER	BF	BX	BO	BC	CY
SP	1.00	0.48**	0.38**	0.29**	0.37**	0.43**	0.44**	0.45**	-0.03	-0.08	0.20**	0.18**	0.04	0.19**	0.44**
UF		1.00	0.80**	0.69**	0.79**	0.30**	0.35**	0.34**	-0.17**	-0.04	0.22**	0.17**	0.15**	0.18**	0.56**
UX			1.00	0.84**	0.96**	0.29**	0.36**	0.34**	-0.06	-0.03	0.20**	0.17**	0.18**	0.19**	0.62**
UO				1.00	0.88**	0.24**	0.32**	0.30**	-0.04	-0.05	0.13*	0.08	0.07	0.10	0.53**
UC					1.00	0.30**	0.38**	0.38**	-0.07	-0.04	0.22**	0.18**	0.19**	0.19**	0.64**
CF						1.00	0.81**	0.86**	0.24**	-0.07	0.30**	0.23**	0.12*	0.23**	0.59**
CO							1.00	0.95**	0.25**	-0.01	0.35**	0.29**	0.22**	0.31*	0.71**
CC								1.00	0.23**	-0.02	0.39**	0.33**	0.20**	0.34**	0.72**
INQ									1.00	0.09	0.10	0.08	0.03	0.07	0.07
PER										1.00	-0.08	-0.06	-0.01	-0.08	-0.05
BF											1.00	0.75**	0.50**	0.75**	0.56**
BX												1.00	0.66**	0.99**	0.63**
BO													1.00	0.69**	0.44**
BC														1.00	0.64**
CY															1.00

***, **:** Significant at 0.05 and 0.01 percent level of probability, respectively.

SP- Seeing Problem; UF- Unusual Uses Fluency; UX- Unusual Uses Flexibility; UO- Unusual Uses Originality; UC- Unusual Uses Creativity; CF- Consequences Fluency; CO- Consequences Originality; CC- Consequences Creativity; INQ- Inquisitiveness; PER- Persistency; BF- Blocks Fluency; BX- Blocks Flexibility; BO- Blocks Originality; BC- Blocks Creativity and CY- Total Creativity

The unusual uses creativity was highly, positively and significantly correlated with consequences fluency (r= 0.30, p<0.01), consequences originality (r= 0.38, p<0.01), consequences creativity (r= 0.38, p<0.01), blocks fluency (r= 0.22, p<0.01), blocks flexibility (r= 0.18, p<0.01), blocks originality (r= 0.19, p<0.01), blocks creativity (r= 0.19, p<0.01) and total creativity (r= 0.64, p<0.01). The unusual uses creativity was negatively correlated with inquisitiveness (r= -0.07, p<0.01) and persistency (r= -0.04, p<0.01).

The consequences fluency was highly, positively and significantly correlated with consequences originality (r= 0.81, p<0.01), consequences creativity (r= 0.86, p<0.01), inquisitiveness (r= 0.24, p<0.01), blocks fluency (r= 0.30, p<0.01), blocks flexibility (r= 0.24, p<0.01), blocks creativity (r= 0.23, p<0.01) and total creativity (r= 0.59, p<0.01). It was positively and significantly correlated with blocks originality (r= 0.12, p<0.05) and was negatively correlated with persistency (r= -0.07, p<0.01).

Consequences originality was highly, positively and significantly correlated with consequences creativity (r= 0.95, p<0.01), inquisitiveness (r= 0.25, p<0.01), blocks fluency (r= 0.35, p<0.01), blocks flexibility (r= 0.29, p<0.01), blocks originality (r= 0.22, p<0.01) and total creativity (r= 0.71, p<0.01). Consequences originality was positively and significantly correlated with blocks creativity (r= 0.31, p<0.05) and was negatively correlated with persistency (r= -0.01, p<0.01).

Consequences creativity was highly, positively and significantly correlated with inquisitiveness (r= 0.23, p<0.01), blocks fluency (r= 0.39, p<0.01), blocks flexibility (r= 0.33, p<0.01), blocks originality (r= 0.20, p<0.01), blocks creativity (r= 0.34, p<0.01) and total creativity (r= 0.72, p<0.01). It was negatively correlated with persistency (r= -0.02, p<0.01).

Inquisitiveness was positively correlated with persistency (r= 0.09, p<0.01), blocks fluency (r= 0.10, p<0.01), blocks flexibility (r= 0.08, p<0.01), blocks originality (r= 0.03, p<0.01), blocks creativity (r= 0.07, p<0.01) and total creativity (r= 0.07, p<0.01).

Persistency was negatively correlated with blocks fluency (r= -0.08, p<0.01), blocks flexibility (r= -0.06, p<0.01), blocks originality (r= -0.01, p<0.01), blocks creativity (r= -0.08, p<0.01) and total creativity (r= -0.05, p<0.01).

Blocks fluency was highly, positively and significantly correlated with blocks flexibility (r= 0.75, p<0.01), blocks originality (r= 0.50, p<0.01), blocks creativity (r= 0.75, p<0.01) and total creativity (r= 0.56, p<0.01). Blocks flexibility was highly, positively and significantly correlated with blocks originality (r= 0.66, p<0.01), blocks creativity (r= 0.99, p<0.01) and total creativity (r= 0.63, p<0.01).

Blocks originality was highly, positively and significantly correlated with blocks creativity (r= 0.69, p<0.01) and total creativity (r= 0.44, p<0.01).

Blocks creativity was highly, positively and significantly correlated with total creativity (r= 0.64, p<0.01).

4.7 Associations between dependent and independent variables

Table 19: Association of dependent variables with total creativity **n=300**

Sr. No.	Variables	Level of creativity			Chi square value
		Below average	Average	Above average	
		F (%)	F (%)	F (%)	
Association of personal variables with total creativity					
1.	**Gender**				
	Boys	63 (21.0)	68 (22.7)	19 (6.3)	2.02
	Girls	53 (17.7)	71 (23.7)	26 (8.7)	
2.	**Age**				
	12 years old	32 (10.7)	38 (12.7)	12 (4.0)	9.90*
	13 years old	16 (5.3)	37 (12.3)	05 (1.7)	
	14 years old	68 (22.7)	64 (21.3)	28 (9.3)	
3.	**Birth order**				
	First born	43 (14.3)	41 (13.7)	19 (6.3)	7.41
	Second born	38 (12.7)	40 (13.3)	14 (4.7)	
	Third born	24 (8.0)	34 (11.3)	09 (3.0)	
	Fourth born	11 (3.7)	24 (8.0)	03 (1.0)	
4.	**Caste**				
	General category	42 (14.0)	50 (16.7)	10 (3.3)	9.88*
	Scheduled caste	38 (12.7)	45 (15.0)	10 (3.3)	
	Backward class	36 (12.0)	44 (14.7)	25 (8.3)	
5.	**Sleep disorder**				
	Never	53 (17.7)	60 (20.0)	19 (6.3)	4.18
	Sometimes	47 (15.7)	68 (22.7)	23 (7.7)	
	Always	16 (5.3)	11 (3.7)	03 (1.0)	
Association of home environment variables with total creativity					
6.	**Type of family**				
	Joint family	53 (17.7)	73 (24.3)	22 (7.3)	8.22
	Extended family	31 (10.3)	25 (8.3)	11 (3.7)	
	Nuclear family	32 (10.7)	41 (13.7)	12 (4.0)	
7.	**Family size**				
	Marginal (3 to 5 members)	49 (16.3)	46 (15.3)	18 (6.0)	5.27
	Small (6 to 8 members)	42 (14.0)	65 (21.7)	15 (5.0)	
	Medium (9 to 11 members)	15 (5.0)	15 (5.0)	08 (2.7)	
	Large (more than 11 members)	10 (3.3)	13 (4.3)	04 (1.3)	
8.	**Number of siblings**				
	One sibling	20 (6.7)	13 (4.3)	06 (2.0)	6.02
	Two siblings	42 (14.0)	46 (15.3)	19 (6.3)	
	Three and more siblings	54 (18.0)	80 (26.7)	20 (6.7)	
9.	**Maternal education**				
	Illiterate	54 (18.0)	50 (16.7)	23 (7.7)	5.80
	Up to matriculation	47 (15.7)	67 (22.3)	14 (4.7)	
	Graduate and Post Graduate	15 (5.0)	22 (7.3)	08 (2.7)	

10.	**Paternal education**				
	Illiterate	26 (8.7)	21 (7.0)	09 (3.0)	8.18
	Up to matriculation	50 (16.7)	81 (27.0)	18 (6.0)	
	Graduate and Post Graduate	40 (13.3)	37 (12.3)	18 (6.0)	
11.	**Maternal occupation**				
	Home-maker	76 (25.3)	101 (33.7)	40 (13.3)	13.64**
	Agriculture	17 (5.7)	13 (4.3)	01 (0.3)	
	Private sector job	09 (3.0)	16 (5.3)	01 (0.3)	
	Govt. employee	14 (4.7)	09 (3.0)	03 (1.0)	
12.	**Paternal occupation**				
	Agriculture	54 (18.0)	80 (26.7)	21 (7.0)	13.99**
	Private sector job	28 (9.3)	40 (13.3)	18 (6.0)	
	Govt. employee	31 (10.3)	17 (5.7)	06 (2.0)	
13.	**Monthly family income**				
	Less than Rs. 10,000	39 (13.0)	56 (18.7)	19 (6.3)	30.85**
	Rs. 11,000 to Rs. 30,000	05 (1.7)	30 (10.0)	12 (4.0)	
	Rs. 31,000 to Rs. 50,000	28 (9.3)	28 (9.3)	08 (2.7)	
	Rs. 51,000 and more	44 (14.7)	25 (8.3)	06 (2.0)	
14.	**Land holding**				
	Marginal (less than 2 Acre)	49 (16.3)	72 (24.0)	28 (9.3)	10.37*
	Small (2 to 5 Acre)	30 (10.0)	39 (13.0)	10 (3.3)	
	Medium (5 to 10 Acre)	29 (9.7)	20 (6.7)	07 (2.3)	
	Large (more than 10 Acre)	08 (2.7)	08 (2.7)	00 (0.0)	
15.	**Parenting style**				
	Authoritative	36 (12.0)	38 (12.7)	06 (2.0)	10.14*
	Authoritarian	10 (3.3)	13 (4.3)	07 (2.3)	
	Permissive	54 (18.0)	58 (19.3)	26 (8.7)	
	Neglectful	16 (5.3)	30 (10.0)	06 (2.0)	
16.	**Role of parents in adolescents' creativity enhancement**				
	High (11 and above)	32 (10.7)	48 (16.0)	07 (2.3)	8.61*
	Medium (6 to 10)	35 (11.7)	39 (13.0)	21 (7.0)	
	Low (5 and below)	49 (16.3)	52 (17.3)	17 (5.7)	
Association of school environment variables with total creativity					
17.	**Academic class**				
	Eighth	49 (16.3)	63 (21.0)	19 (6.3)	14.60**
	Ninth	32 (10.7)	50 (16.7)	23 (7.7)	
	Tenth	35 (11.7)	26 (8.7)	03 (1.0)	
18.	**Type of school**				
	Government	68 (22.7)	63 (21.0)	19 (6.3)	5.75
	Private	48 (16.0)	76 (25.3)	26 (8.7)	
19.	**Medium of instruction**				
	Hindi	28 (9.3)	19 (6.3)	03 (1.0)	18.51**
	English	24 (8.0)	54 (18.0)	22 (7.3)	
	Bilingual	64 (21.3)	66 (22.0)	20 (6.7)	

20.	**Consecutive academic record**				
	85% to 87%	54 (18.0)	57 (19.0)	19 (6.3)	9.18*
	88% to 90%	29 (9.7)	58 (19.3)	16 (5.3)	
	91% and above	33 (11.0)	24 (8.0)	10 (3.3)	
21.	**Self appraisal of school performance**				
	Above average	52 (17.3)	63 (21.0)	19 (6.3)	13.95**
	Average	39 (13.0)	63 (21.0)	24 (8.0)	
	Below average	25 (8.3)	13 (4.3)	02 (0.7)	
22.	**Academic performance stress**				
	Never	58 (19.3)	85 (28.3)	31 (10.3)	9.40*
	Sometimes	34 (11.3)	37 (12.3)	12 (4.0)	
	Always	24 (8.0)	17 (5.7)	02 (0.7)	
23.	**Favorite subject**				
	Hindi	29 (9.7)	25 (8.3)	12 (4.0)	10.67*
	English	38 (12.7)	41 (13.7)	07 (2.3)	
	Mathematics	19 (6.3)	31 (10.3)	15 (5.0)	
	Science	18 (6.0)	28 (9.3)	07 (2.3)	
	Social science	12 (4.0)	14 (4.7)	04 (1.3)	
24.	**Preferable teaching method**				
	Theoretical method	17 (5.7)	12 (4.0)	02 (0.7)	8.57*
	Demonstration method	63 (21.0)	95 (31.7)	27 (9.0)	
	Mixed method	36 (12.0)	32 (10.7)	16 (5.3)	
25.	**Teaching method employed by teachers**				
	Theoretical method	45 (15.0)	62 (20.7)	19 (6.3)	1.71
	Demonstration method	55 (18.3)	56 (18.7)	18 (6.0)	
	Mixed method	16 (5.3)	21 (7.0)	08 (2.7)	
26.	**Role of teachers in adolescents' creativity enhancement**				
	High (21 and above)	13 (4.3)	16 (5.3)	04 (1.3)	5.17
	Medium (10 to 20)	50 (16.7)	42 (14.0)	18 (6.0)	
	Low (9 and below)	53 (17.7)	81 (27.0)	23 (7.7)	
Association of mass media variables with total creativity					
27.	**Type of mass media used**				
	Print media	09 (3.0)	11 (3.7)	02 (0.7)	2.51
	Audio media	03 (1.0)	03 (1.0)	00 (0.0)	
	Audio-Video media	97 (32.3)	113 (37.7)	39 (13.0)	
	Interactive media	07 (2.3)	12 (4.0)	04 (1.3)	
28.	**Time spend on mass media**				
	3 hours and below	84 (28.0)	116 (38.7)	40 (13.3)	10.97*
	4 to 7 hours	24 (8.0)	13 (4.3)	05 (1.7)	
	8 hours and above	08 (2.7)	10 (3.3)	00 (0.0)	
29.	**Social media use**				
	Yes	75 (25.0)	57 (19.0)	14 (4.7)	20.69**
	No	41 (13.7)	82 (27.3)	31 (10.3)	

*, **: Significant at 0.05 and 0.01 percent level of probability, respectively.
Figures in the parentheses indicate percentages.
F: Frequency of respondents

Table 19 portrayed that the personal variables, such as; respondents' age (χ^2=9.90) and caste (χ^2=9.88) were significantly associated with total creativity of the adolescents. Whereas, no significant association was found with respondents' gender, birth order and sleep disorder.

Further, it was also observed that various home environment variables, such as, maternal occupation (χ^2=13.64), paternal occupation (χ^2=13.99) and monthly family income (χ^2=30.85) were highly significantly associated with respondents' total creativity. While, land holding (χ^2=10.37), parenting style (χ^2=10.14) and role of parents in adolescents' creativity enhancement (χ^2=8.61) were significantly associated with total creativity. Whereas, no significant association was elucidated with type of family, family size, number of siblings and parental education.

Data regarding school environment variables depicted that academic class (χ^2=14.60), medium of instruction (χ^2=18.51) and self-appraisal of school performance (χ^2=13.950) were highly significantly associated with total creativity. While, significant association was displayed in consecutive academic record (χ^2=9.18), academic performance stress (χ^2=9.40), favorite subject (χ^2=10.67) and preferable teaching method (χ^2=8.57). No significant association was observed with type of school, teaching method employed by teachers and role of teachers in adolescents' creativity enhancement.

Further, it was divulged that total creativity was highly significantly associated with social media use (χ^2=20.69) and significantly associated with time spend on mass media (χ^2=10.97) by adolescents. No significant association was found with type of mass media used by respondents (refers to Table 19).

CHAPTER -V

DISCUSSION

The results of the present research are reveiewd and discussed in the light of the specific objectives framed for the present study.

5.1 Personal and socio-economic profiles of the respondents

5.2 Identifying academically bright rural young adolescents

5.3 Assessment of creativity of selected bright young adolescents

5.4 Comparison of creativity of respondents across various independent variables

5.5 Impact of acceleration program on creativity among adolescents

5.6 Correlations between dependent variables

5.7 Associations between dependent and independent variables

5.1 Personal and socio-economic profiles of the respondents

Results of the study recokoned that nearly half of the adolescents were studying in eighth class. More than half of the academically bright rural adolescents were 14 years old and around one third of the adolescents were first born. Caste is an independent variable which decides the social status of any person. In the present study more than one third of the students belonged to backward class. Half of the schools were using bilingual teaching approach as medium of instruction. Further, results illustrated that nearly half of the students achieved an average of 85% to 87% from the last three consecutive years. Similar results were observed for respondents' self appraisal of their own school performance. Results depicted that more than half of the adolescents never felt academic performance stress. Nearly half of the young adolescents sometimes faced sleep disorders due to their academic performance stress.

Results revealed that nearly one third students had English as their subject of interest. Majority of the respondents preferred demonstration based teaching style. As far as family type is concerned nearly half of the respondents belonged to joint families. The trend of small sized family was prevalent followed by marginal. More than half of the adolescents had three and more siblings. Results pertaining to parental education revealed that more than one third of the mothers were educated up to matriculation and half of the fathers were also educated up to matriculation.

Results demonstrated that majority of mothers were home-makers and half of the fathers were farmers. As parental occupation is directly associated to the parental education and family income. Therefore, monthly family income of more than one third of respondent families was less than Rs.10, 000. Further, it was also observed that half of the respondent

families had less than 2 acres of land. It was concluded that nearly half of the parents adopted permissive parenting style.

More than one third of the parents were paying very less attention towards their children creativity improvement the reason being low level of their education. The children with high levels of creativity had poor performing parents as barriers while a minimum amount of traditional intelligence was needed for creativity. Similarly, more than half of the teachers were also paying very low attention towards their students' creativity improvement. Accordingly, teachers should recognize that enhancing creativity is necessary to unfold creativity through appropriately stimulating learning environment (Ahmadi *et al.* 2014 and Runco, 2007).

Facts concerned about mass media related variables stated that most of adolescents used audio-visual media and spent nearly 3 hours on mass media. Further, it was also examined that more than half of the respondents were availing social media websites. This may be directly linked to the readily availability of internet connectivity throughout the country. As mass media is considered as the fourth pillar of democracy it contributes greatly in rural development (Biswal, 2019).

5.2 Identifying academically bright rural young adolescents

Profile of young adolescents portrayed that they were mainly in eighth, ninth and tenth academic standard and out of those from Govt. schools only one fourth (24.11%) qualified the criterion of being academically bright where as from private schools students, nearly one third (29.76%) were academically bright. The possible reasons for the academic achievement of private school students could be its better infrastructure, teaching environment, dedicated teaching staff, disciplinary practices and advanced teaching facilities.

Based on total sample, while comparing the respondents on the ground of being academically bright, it was noticed that a little high number of male students scored more than the female students. This may be because of the puberty phase, through which most of the adolescents are under going, but as girls attain puberty earlier than boys and they also face more physical and psychological stress at this stage, hence their academic performances may be affected adversely.

The obtained results were in line with the findings of the study conducted by Imam *et al.* (2018) who also found that the academic achievement level of students was very low in both private and Govt. schools. Whereas, the private school students performed significantly well in academic achievement than their counterparts in Govt. schools. The results also indicated that there were significant differences between mean academic achievement scores of boys and girls.

5.3 Assessment of creativity of selected bright young adolescents

Research results elucidated that in various sub-aspects of creativity such as, seeing problem, unusual uses fluency, consequences fluency, persistency, blocks fluency, blocks flexibility, blocks creativity and total creativity young adolescents were having average levels. Research conducted by Singh and Rana (2016) also supported the research findings that majority of the respondents had average level of creativity. Similar results were revealed in another study conducted by Singh and Beniwal (2016) who showed that majority of the adolescents had moderate level of word fluency, ideational fluency and associational fluency. Above average level of creativity was observed only in one domain i.e., unusual uses flexibility. In the remaining sub-domains of creativity i.e., unusual uses originality, unusual uses creativity, consequences originality, consequences creativity, inquisitiveness and blocks originality below average levels were observed.

Comparison of level of creativity based on school type depicted that Govt. school students performed above average in unusual uses fluency and unusual uses flexibility, whereas, private school students scored above average in consequences fluency. Further results portrayed that Govt. school students achieved average levels in seeing problem, consequences fluency, blocks fluency and blocks flexibility. Whereas, private school students had average levels in unusual uses fluency, unusual uses flexibility, persistency, blocks fluency, blocks flexibility, blocks creativity and total creativity. Kumari *et al.* (2018) and Vaida (2013) also revealed that the majority of the both Govt. and private school students were moderately creative. While, Rana (2016) and Sharma (2014) divulged that Govt. school students had higher level of creativity as compared to their counterparts. Socio-cultural theorists of creativity described creativity as nested within various levels of social organizations (Glaveanu, 2010).

Students studying in Govt. schools displayed below average performance in unusual uses originality, unusual uses creativity, consequences originality, consequences creativity, inquisitiveness, blocks originality, blocks creativity and total creativity. While, private school students performed below average in seeing problem, unusual uses originality, unusual uses creativity, consequences originality, consequences creativity, inquisitiveness and blocks originality.

Comparison of respondents' creativity on the basis of their gender revealed that boys achieved above average scores in unusual uses flexibility while, girls scored above average in none of the sub aspects of creativity. Sumangala (2014) also observed that boys scored higher on various aspects of creativity i.e., flexibility, fluency, originality and elaboration than girls. Further, results portrayed that both boys and girls scored average levels in seeing problem, unusual uses fluency, persistency, blocks fluency, blocks flexibility and total creativity. Boys scored average levels in consequences fluency and blocks creativity while, girls had average

levels in unusual uses flexibility. Whereas, contradictory results were obtained by Sharma (2014), Rani and Dalal (2013) according to which girl students possessed higher levels of creativity as compared to boys.

Both boys and girls performed below average in unusual uses originality, unusual uses creativity, consequences originality, consequences creativity, inquisitiveness and blocks originality. In addition, girls also had below average levels of creativity in consequences fluency and blocks creativity. The results were also favored by Dhingra and Sharma (2015), who also found that both boys and girls had a declining trend in fluency, originality, flexibility and elaboration.

5.4Comparison of respondents' creativity based on various independent variables

Comparison of creativity of respondents based on academic class

Results showed highly significant differences for seeing problem, unusual uses fluency, consequences fluency, consequences originality, consequences creativity, persistency, blocks originality and total creativity. While, significant results were depicted in blocks fluency, blocks flexibility and blocks creativity (Table 4).

On the basis of mean scores it was revealed that the eighth class students were significantly better in seeing problem, unusual uses fluency and blocks originality than their respective counterparts. While, ninth class students performed significantly better in consequences fluency, consequences originality, consequences creativity, persistency, blocks fluency, blocks flexibility, blocks creativity and total creativity. Similar results were observed by Reddy *et al.* (2015) who revealed that there was significant impact of academic class on the creativity level of high school students.

Comparison of creativity of respondents based on consecutive academic record

Results portrayed highly significant differences in consequences fluency and inquisitiveness. Further, significant differences were found in seeing problem, unusual uses originality, unusual uses creativity, persistency, blocks originality, blocks creativity and total creativity (Table 5).

On the basis of mean scores it was depicted that the students who scored 85% to 87% were significantly better in unusual uses originality and unusual uses creativity than their respective counterparts. Adolescents who scored 88% to 90% were significantly better in seeing problem, consequences fluency, inquisitiveness, persistency and total creativity. Respondents who scored more than 91% performed significantly better in blocks originality and blocks creativity. The results obtained were in line with the findings of study conducted by Awamleh *et al.* (2019) who also found significant differences in creativity dimensions for the grade point average (GPA). Whereas, contradictory results were observed by Arya and Maurya (2017) who found no significant association between creativity, academic achievement and intelligence.

Comparison of creativity of respondents based on academic performance stress

Results depicted highly significant differences for consequences originality and consequences creativity (Table 6). Further, significant differences were observed in seeing problem, consequences fluency, inquisitiveness, blocks flexibility, blocks creativity and total creativity. On the basis of mean scores it was examined that the students who never felt academic performance stress performed significantly better in seeing problem, consequences fluency, consequences originality, consequences creativity, inquisitiveness, blocks flexibility, blocks creativity and total creativity than their respective counterparts. Singh and Kaur (2015) also reported that the creative students had higher level of achievement motivation and lesser anxiety levels than their low creative counterparts and vice-versa.

Comparison of creativity of respondents based on role of parents for enhancement of creativity

Highly significant differences were illustrated in seeing problem, while, significant differences were observed in unusual uses fluency, unusual uses flexibility and unusual uses creativity (Table 7). The similar results were obtained by Singh and Beniwal (2016) who found that home environment was significantly associated with creativity level of the young adolescents. Whereas, contradictory results were revealed in a research study by Baral (2018) which illustrated that there were no differences in the creativity of young adolescents' across their home environment related variables.

Further, on the basis of mean scores it was revealed that respondents whose parents paid medium attention performed significantly better in seeing problem, unusual uses fluency, unusual uses flexibility and unusual uses creativity than their respective counterparts. The research results were also supported by three different studies conducted by Singh and Beniwal (2016), Lew (2015) and Tehlan (2015), who also found that the students belonging to creativity-favorable home environment were more creative than their counterparts.

Comparison of creativity of respondents based on role of teachers for enhancement of creativity

Highly significant differences were elucidated in seeing problem and persistency whereas, significant differences were observed in unusual uses creativity and blocks creativity (Table 8). Similar results were observed by Rose (2016), Budsankom *et al.* (2015) and Devi (2015), who also found that positive student-teacher relationship and better school environment encouraged students in their creative endeavors.

Further, on the basis of mean scores it was concluded that the students whose teachers made high level efforts were significantly better in seeing problem and persistency than their respective counterparts. Whereas, students whose teachers made least efforts were significantly better in unusual uses creativity and blocks creativity.

Comparison of creativity of respondents based on teaching method employed by teachers

Results displayed highly significant differences in consequences originality. Significant differences were found in seeing problem, unusual uses originality, unusual uses creativity, consequences creativity, persistency, blocks fluency and blocks creativity (Table 9).

Further, on the basis of mean scores it was elucidated that the respondents whose teachers employed theoretical teaching method performed significantly better in seeing problem, persistency, blocks fluency, blocks originality and blocks creativity. More influential performances existed where teachers implemented mixed teaching methods such as in unusual uses originality, unusual uses creativity, consequences originality and consequences creativity than their respective counterparts. The results were also supported by Cole *et al.* (2014) who observed that the students' creativity level was significantly associated with teaching techniques employed by the teachers.

Comparison of creativity of respondents based on type of family

Results showed that highly significant differences in unusual uses originality, consequences fluency and blocks originality. Significant differences were depicted in seeing problem, unusual uses fluency, unusual uses creativity, consequences originality and consequences creativity (Table 10).

Further, on the basis of mean scores it was divulged that the adolescents who had joint families were significantly better in unusual uses fluency, unusual uses creativity, consequences fluency, consequences originality and consequences creativity. Adolescents who had extended families scored significantly better in blocks originality than their respective counterparts. Adolescents who had nuclear families performed significantly extra ordinary in seeing problem and unusual uses originality. Similar results were revealed in the study conducted by Rao and Satyapal (2013) who showed that language creativity of students was exaggerated by their type of family, residential area and maternal occupation. Whereas, contradictory results were found in the research conducted by Baral (2018), which revealed that there was no significant differences in the creative ability of high school students belonging to different birth order, nuclear and joint family as a whole.

Comparison of creativity of respondents based on parenting style adopted by the parents

Highly significant differences were observed in unusual uses flexibility and unusual uses creativity. Significant differences were examined in unusual uses originality, blocks originality, blocks creativity and total creativity (Table 11).

Further, on the basis of mean scores it was noticed that the adolescents whose parents adopted authoritative parenting style were significantly superior in blocks creativity than their respective counterparts. While, adolescents whose parents adopted authoritarian parenting style were significantly better in unusual uses flexibility, unusual uses creativity and total

creativity. While, adolescents whose parents adopted neglectful parenting style performed significantly better in unusual uses originality and blocks originality than their respective counterparts. The results of the present study were in line with finding of the study by Devi (2015) who found that there was positive correlation between parental disciplinary practices and students creativity.

Comparison of creativity of respondents based on type of mass media used

Significant differences were revealed in unusual uses fluency, unusual uses originality, unusual uses creativity, consequences fluency, consequences creativity, blocks creativity and total creativity (Table 12).

Comparison of the mean scores depicted that the adolescents who employed audio media were significantly better in blocks creativity and adolescents who employed audio-visual media performed significantly better in total creativity. Whereas, adolescents who used interactive mass media were significantly superior in unusual uses fluency, unusual uses originality, unusual uses creativity, consequences fluency and consequences creativity. Advertising has a pervasive influence on children and adolescents. Young people view more than 40,000 advertisements per year on television alone and increasingly are being exposed to advertising on the internet, in magazines and in schools (Padmalosani and Uma, 2019).

Mean differences in adolescents' creativity on the basis of gender

Results portrayed highly significant differences in unusual uses creativity, consequences creativity, persistency and total creativity. Significant differences were examined in adolescents' unusual uses fluency, unusual uses flexibility, inquisitiveness, blocks originality and blocks creativity (Table 13). On the basis of mean scores females' outscored males in unusual uses fluency, unusual uses flexibility, unusual uses creativity, consequences creativity, persistency, blocks originality and total creativity. The obtained results were also favored by various research studies such as, Awamleh *et al.* (2019), Singh and Beniwal (2016), Rani and Dalal (2013), who also found that females were better in their creative abilities as compared to the males.

Further research results revealed that males were more creative against their counterparts in inquisitiveness and blocks creativity. Similar results were reported by Singh and Rana (2016) who also found that male respondents were better in their creative abilities as compared to females. Contradictory results were obtained in the study conducted by Kishor (2012) who revealed that there was no significant difference in creativity level of respondents on the basis of their gender.

Mean differences in adolescents' creativity on the basis of school type

Highly significant differences were observed in adolescents seeing problem, unusual uses fluency, unusual uses originality, consequences fluency, consequences originality, consequences creativity, blocks flexibility, blocks creativity and total creativity. Significant

differences were elucidated in respondents blocks fluency and inquisitiveness scores. The research results were supported by other researchers' research findings such as Vaida (2013) and Tasaduq and Azim (2012) who revealed that creativity scores differed significantly among Govt. and private school students (Table 14).

On the basis of mean scores the private school students performed significantly better in seeing problem, unusual uses fluency, consequences fluency, consequences originality, consequences creativity, blocks fluency, blocks flexibility, blocks creativity and total creativity. Research results were supported by Rana (2016) who revealed that overall creativity was highest among private school students. Whereas, in unusual uses originality and inquisitiveness scores Govt. school students scored significantly better as compared to the private school students. Research results were supported by Singh and Rana (2016) and Sharma (2014) who found that level of creativity was highest among Govt. school students as compared to the private school students.

5.5 Impact of acceleration program on creativity among adolescents

An intervention is a combination of program strategies or elements designed to produce desired changes among the respondents of treatment-group. In present research study, intervention referred to the self-prepared acceleration program which included information, multiple strategies and hands-on activities for the students. Such acceleration programs incorporated into regular classroom curriculum in order to enhance students' creativity and to make mainstreaming educational practices more interesting and outcome-worthy (ANNEXURE-III). With the above stated aims in mind, the acceleration program was implemented continuously on each Wednesday and Saturday for three months i.e., November, December and January. Simone and Nel (2017) studied the effectiveness of the training by means of a pre and post- data comparison and found that creativity level of the ideas generated during the divergent thinking task improved and suggested important implications for educational and organizational settings to have creativity training to facilitate creative thinking skills. The post-test results obtained were as follows:

Pre and post-testing comparison of creativity among experimental group adolescents

Results portrayed highly significant differences for consequences fluency, consequences creativity, inquisitiveness and blocks fluency. Whereas, significant differences were found in seeing problem, unusual uses fluency, persistency, blocks flexibility, blocks creativity and total creativity (Table 15). Similar results were also obtained by various researchers in different research studies of Tsai (2019), Gupta (2019), Al Aqueel *et al.* (2018), Khawaldeha and Alib (2016), Karkockiene (2015), Valentini *et al.* (2014), Garaigordobil (2014) and Garaigordobil and Berrueco (2014), who also found significant differences in the mean scores of respondents who belonged to experimental and controlled group.

No significant differences were observed in the remaining variables such as, unusual uses flexibility, unusual uses originality, unusual uses creativity, consequences originality and blocks originality. The research results were also supported by the research findings obtained by Majid and Fatemah (2018), who found that the intervention programme did not show any significant improvement in creativity of experimental group students.

Results revealed significant increase from 10.20 percent to 14.98 percent in the respondents' posttests scores over pretest scores in consequences fluency, consequences creativity, inquisitiveness, blocks fluency, seeing problem, unusual uses fluency, persistency, blocks flexibility, blocks creativity and total creativity.

There was no significant increase ranging from 3.91 percent to 9.82 percent in the scores of respondents in posttests scores over pretest scores was observed in unusual uses flexibility, unusual uses originality, unusual uses creativity, consequences originality and blocks originality.

Pre and post-testing comparison of creativity among experimental group adolescents based on their gender

Results elucidated highly significant differences for boys in the blocks fluency and significant differences were found in the following sub-domains of creativity, i.e., seeing problem, consequences fluency, blocks flexibility and total creativity (Table 16). No significant differences were found in the remaining sub-aspects of creativity. The research results were also supported by various research studies conducted at different times by Tsai (2019), Gupta (2019), Al_Aqueel *et al.* (2018), Simone and Nel (2017), Khawaldeha and Alib (2016), Karkockiene (2015), Valentini *et al.* (2014) and Garaigordobil and Berrueco (2014), who also scrutinized that there were significant differences in the mean scores of experimental group respondents as compared to the controlled group respondents.

Significant increase ranging from 13.60 percent to 14.90 percent was recorded in post test scores of male respondents over pre test scores in blocks fluency, seeing problem, consequences fluency, blocks flexibility and total creativity.

Non-significant increase ranged from 4.61 percent to 10.35 percent was examined in the post test scores of male respondents over pre test scores in unusual uses fluency, unusual uses flexibility, unusual uses originality, unusual uses creativity, consequences originality, consequences creativity, inquisitiveness, persistency, blocks originality and blocks creativity.

Results revealed significant differences for girls in seeing problem, consequences originality, blocks fluency and total creativity. While, non-significant differences were observed in the remaining sub-domains of creativity.

Significant increase ranged from 12.64 percent to 14.80 percent in post test scores of female respondents over pre test scores were observed in seeing problem, consequences originality, blocks fluency and total creativity.

While, non-significant increase ranged from 3.44 percent to 11.25 percent in post test scores of female respondents over pre test scores found in various sub-domains of creativity such as, unusual uses fluency, unusual uses flexibility, unusual uses originality, unusual uses creativity, consequences fluency, consequences creativity, inquisitiveness, persistency, blocks flexibility, blocks originality and blocks creativity. Similar results were also revealed by Majid and Fatemah (2018) who also found that the intervention plan certainly doesn't lead towards the significant differences for creativity but it may enhance the post-test scores of respondents.

Pre and post-testing comparison of creativity among experimental group adolescents based on their school type

Results pertaining to Govt. schools illustrated significant differences for seeing problem, unusual uses fluency, unusual uses creativity, consequences fluency, consequences creativity, inquisitiveness and blocks fluency. No significant differences were found in the other sub-aspects of creativity (Table 17).

Results regarding private schools showed significant differences in seeing problem, unusual uses fluency, consequences originality, blocks fluency and total creativity. Non-significant differences were portrayed in the remaining sub-domains of creativity.

The results were also in line with the results of various research studies such as, Tsai (2019), Gupta (2019), Al_Aqueel *et al.* (2018), Simone and Nel (2017), Khawaldeha and Alib (2016), Karkockiene (2015), Valentini *et al.* (2014) and Garaigordobil and Berrueco (2014), who also revealed significant differences in the mean scores of experimental group participants as compared to the controlled group ones.

Significant increase ranged from 11.13 percent to 15.30 percent in post test scores of Govt. school students over pre test scores were observed in seeing problem, unusual uses fluency, unusual uses creativity, consequences fluency, consequences creativity, inquisitiveness and blocks fluency.

Non-significant increase ranged from 4.61 percent to 10.97 percent in post test scores of Govt. school students over pre test scores revealed in unusual uses flexibility, unusual uses originality, consequences originality, persistency, blocks flexibility, blocks originality, blocks creativity and total creativity.

Significant increase ranged from 12.10 percent to 14.80 percent in post test scores of private school respondents over pre test scores in seeing problem, unusual uses fluency, consequences originality, blocks fluency and total creativity.

Non-significant increase ranged from 4.31 percent to 12.62 percent in post test scores of private school students over pre test scores in unusual uses flexibility, unusual uses originality, unusual uses creativity, consequences fluency, consequences creativity, inquisitiveness, persistency, blocks flexibility, blocks originality and blocks creativity. The results elucidated were also supported by Majid and Fatemah (2018), who found that

intervention programs always doesn't pave towards the significant differences in creativity scores while, there may be non-significant improvement in the post tests mean scores.

5.6 Correlations between dependent variables

Results in Table 18 indicated that seeing problem was highly, positively and significantly correlated with unusual uses fluency, unusual uses flexibility, unusual uses originality, unusual uses creativity, consequences fluency, consequences originality, consequences creativity, blocks fluency, blocks flexibility, blocks creativity and total creativity. Seeing problem was negatively correlated with inquisitiveness and persistency.

Adolescents' unusual uses fluency was highly, positively and significantly correlated with unusual uses flexibility, unusual uses originality, unusual uses creativity, consequences fluency, consequences originality, consequences creativity, blocks fluency, blocks flexibility, blocks originality, blocks creativity and total creativity. Unusual uses fluency was highly, negatively significantly correlated with inquisitiveness and it was negatively correlated with persistency.

Respondents' unusual uses flexibility was found to be highly, positively and significantly correlated with unusual uses originality, unusual uses creativity, consequences fluency, consequences originality, consequences creativity, blocks fluency, blocks flexibility, blocks originality, blocks creativity and total creativity. Unusual uses flexibility was negatively correlated with inquisitiveness and persistency.

Young adolescents' unusual uses originality was highly, positively and significantly correlated with unusual uses creativity, consequences fluency, consequences originality, consequences creativity and total creativity. It was positively and significantly correlated with blocks fluency. Unusual uses originality was negatively correlated with inquisitiveness and persistency, while, it was positively correlated with blocks flexibility, blocks originality and blocks creativity.

The unusual uses creativity was highly, positively and significantly correlated with consequences fluency, consequences originality, consequences creativity, blocks fluency, blocks flexibility, blocks originality, blocks creativity and total creativity. The unusual uses creativity was negatively correlated with inquisitiveness and persistency.

The consequences fluency was highly, positively and significantly correlated with consequences originality, consequences creativity, inquisitiveness, blocks fluency, blocks flexibility, blocks creativity and total creativity. It was positively and significantly correlated with blocks originality and was negatively correlated with persistency.

Consequences originality was highly, positively and significantly correlated with consequences creativity, inquisitiveness, blocks fluency, blocks flexibility, blocks originality and total creativity. Consequences originality was positively and significantly correlated with blocks creativity and was negatively correlated with persistency.

Consequences creativity was highly, positively and significantly correlated with inquisitiveness, blocks fluency, blocks flexibility, blocks originality, blocks creativity and total creativity. It was negatively correlated with persistency.

Inquisitiveness was positively correlated with persistency, blocks fluency, blocks flexibility, blocks originality, blocks creativity and total creativity.

Persistency was negatively correlated with blocks fluency, blocks flexibility, blocks originality, blocks creativity and total creativity.

Blocks fluency was highly, positively and significantly correlated with blocks flexibility, blocks originality, blocks creativity and total creativity. Blocks flexibility was highly, positively and significantly correlated with blocks originality, blocks creativity and total creativity.

Blocks originality was highly, positively and significantly correlated with blocks creativity and total creativity.

Blocks creativity was highly, positively and significantly correlated with total creativity.

5.7 Associations between dependent and independent variables

Results in Table 19 portrayed that the personal variables, such as; respondents' age and caste were significantly associated with total creativity of the adolescents. Similar results were obtained by Rao and Satyapal (2013) in a study to assess the impact of socio-economic status of scheduled caste students on their creativity level and the results portrayed that creativity of students was significantly associated with their caste, place of living, type of family and maternal occupation.

Whereas, no significant association was found with respondents' gender, birth order and sleep disorder. The results were also supported by three different research studies conducted by Baral (2018), Jeenabadi *et al.* (2015), Zirak *et al.* (2015) and Kishor (2012) which revealed that there were no significant differences between creative thinking patterns of respondents based on their gender and birth order. Contradictory results were obtained in the various studies conducted by Awamleh *et al.* (2019), Singh and Beniwal (2016), Singh and Rana (2016) and Rani and Dalal (2013) who found significant differences in creativity level of respondents on the basis of their gender.

Further, it was also observed that various home environment variables, such as, maternal occupation, paternal occupation and monthly family income were highly significantly associated with respondents' total creativity. While, land holding, parenting style and role of parents in adolescents' creativity enhancement were highly significantly associated with total creativity. The research results were supported by different studies conducted by Singh and Beniwal (2016), Lew (2015), Tehlan (2015), Manker *et al.* (2013) and Alam (2012) which stated that home environment was significantly associated with

creativity level of the adolescents. Devi (2015) also found positive correlation between parental disciplinary techniques and adolescents' creativity. Contradictory results were obtained by Aquil and Ahamad (2015) which illustrated that maternal occupation had no impact on respondents' creative abilities.

Further research results elucidated that there was no significant association with type of family, family size, number of siblings and parental education. The results obtained were in line with the findings of Baral (2018) which revealed that there was no significant difference in the creative ability of high school students belonging to different birth order and family type.

Data regarding school environment variables such as, academic class, medium of instruction and self-appraisal of school performance were highly significantly associated with total creativity. While, significant association was displayed in consecutive academic record, academic performance stress, favorite subject and preferable teaching method. Similar results were obtained by different researchers such as Singh and Rana (2016), Rana (2016), Sharma (2014), Vaida (2013) and Tasaduq and Azim (2012) who revealed that creativity scores of students differed significantly on the basis of school environment. Cole *et al.* (2014) also found that positive student-teacher relationship, de-emphasis of grading system; motivation of subject selection, creatively selected teaching methods, variety in school activities and group assignments etc. all together embraced students' creative abilities.

No significant association was observed with type of school, teaching method employed by teachers and role of teachers in adolescents' creativity enhancement.

Further, it was divulged that total creativity was highly significantly associated with social media use by adolescents and was significantly associated with time spent on mass media. No significant association was found with type of mass media used by respondents. The results obtained were also supported by Acar *et al*. (2019) who revealed that time spent on social media, purposes for using social media, frequency of social media use and the nature of social media uses was positively correlated with participants' creativity.

CHAPTER -VI

SUMMARY AND CONCLUSION

Adolescence is a transitional interlude between playful childhood and conscientious adulthood. Fluctuations in adolescents thinking, reasoning and understanding patterns can be even extra dramatic than their apparent abrupt physical changes. This higher-order thinking ability enables them to think about their future by evaluating various alternatives and finally to set personal goals, accordingly. But our culture has focused too much on verbal and logical thinking i.e., the abilities typically assessed on an intelligence test are triumph and other ways of knowledge are neglected. Whereas, intelligence vigorously relies on the context, the tasks, the demands and the problems that we tackle in day-to-day life and not on the Intelligence Quotient score, a college degree or a prestigious reputated position. This ability of mastering skills in a innovative manner refers to the creativity that can be found in every walk of life.

From human ecological perspective, human development is an outcome of interactions between the growing organism and its environment. Development of creative skills is also influenced by such interactions between the child and its surroundings, even more specifically by the home and school environment. The appraisal of intellectual skills of the adolescents will facilitate their mentors, parents and teachers to identify and channelize their intellectual potential in a proper direction. Hence, the present research study was conducted with the following objectives:

6.1 Objectives

1. To identify academically bright rural young adolescents
2. To assess the creativity of selected bright adolescents
3. To implement and assess the impact of acceleration program
4. To delineate influence of socio-personal and economic variables on creativity

6.2 Materials and Methods

The present study was conducted in Hisar district of Haryana. Multi-stage sampling procedure was adopted to collect the representative sample from the rural localities. From the Hisar district Narnaund block was selected randomly and from this block eight villages having both Government high/senior secondary schools and private high/senior secondary schools were chosen randomly.

Selection of Respondents:

A list of young adolescent boys and girls in the age group of 12-14 years was obtained from the selected schools. Further, the sample of 300 academically bright respondents was separated purposively i.e., students who achieved more than 85 percent marks as an average of their last three consecutive academic years. The representative sample

constituted of equal number of boys and girls selected through criterion-based sampling procedure from the various Government and private schools.

Instrument of the Study:

The *Passi Test of Creativity (PTC)* developed by *Passi (2006)* was implemented to collect the empirical data of dependent variables. While, self-developed questionnaire-cum-interview schedule was used to collect information regarding adolescents' personal and socio-economic variables.

Implementation of acceleration programme and post- testing

Further, total creativity scores of respondents were computed separately and categorized as low, medium and high. After the systematic categorization of creativity scores the total sample was divided into two equal groups namely experimental and controlled. Self-prepared acceleration programme-cum-intervention was administered constantly to the experimental group respondents for three months i.e., November, 2019, December, 2019 and January, 2020 (every Wednesday and Saturday). Whereas, the controlled group respondents were given no such intervention. After 15 days, respondents of experimental group were post-tested by using self-modified version of Passi Test of Creativity.

6.3 Results and Discussion

Personal and socio-economic profile of respondents

Nearly half of the adolescents were studying in eighth class. More than half of the adolescents were 14 years old and around one third of them were first born. More than one third of the respondents were from backward class. Half of the schools employed bilingual teaching approach and nearly half of the teachers adopted demonstration teaching style. Nearly half of the students attained an average of 85 percent to 87 percent marks from the last three consecutive academic years. More than half of the adolescents never felt academic performance stress but even though nearly half of the respondents sometimes faced sleep disorders. Change in the scenario was observed from rural areas since English was favorite subject of nearly one third of students and majority of the respondents preferred demonstration teaching style.

Nearly half of the respondents belonged to joint families, however they had small sized families and more than half of the adolescents had three and more siblings. There was low level of literacy observed among both the parents. A higher rate of illiteracy was revealed among maternal education as compared to paternal education. As a result major percentage of mothers was home-makers and half of the respondents fathers were farmers. Monthly family income of more than one third of families was less than Rs. 10,000. All such factors contributed towards adoption of permissive parenting style and negligence of children creativity by the parents. Similarly, teachers were also not paying very much attention towards students' creativity enhancement. Although the respondents were from rural

backgrounds even though most of them adopted audio-visual media, more than half of them were on social media and spent nearly 3 hours on mass media.

Selection of academically bright rural young adolescents

Young adolescents were studying primarily in eighth, ninth and tenth classes. From Govt. schools, only one fourth (24.11%) of the students were academically bright and in private schools, nearly one third (29.76%) of the students qualified the criteria of being academically bright. Based on total sample, it was observed that more number of male students were more academically bright than the female students.

Assessment of creativity of selected bright young adolescents

In seeing problem, unusual uses fluency, blocks fluency, blocks flexibility, blocks creativity consequences fluency, persistency and total creativity adolescents had an average performance. Above average level of creativity was portrayed in unusual uses flexibility. In consequences originality, consequences creativity, unusual uses originality, unusual uses creativity, blocks originality and inquisitiveness below average levels were observed.

Govt. school students scored above average in unusual uses flexibility and fluency, whereas, private school students performed above average in consequences fluency. Govt. school students attained average levels in seeing problem, blocks fluency, blocks flexibility and consequences fluency. Whereas, private school students achieved average levels in persistency, blocks fluency, blocks flexibility, blocks creativity, unusual uses fluency, unusual uses flexibility and total creativity.

Govt. school students had below average performance in inquisitiveness, consequences originality, consequences creativity, unusual uses originality, unusual uses creativity, blocks originality, blocks creativity and total creativity. While, private school students scored below average in inquisitiveness, seeing problem, consequences originality, consequences creativity, unusual uses originality, unusual uses creativity and blocks originality.

Boys perceived above average scores in unusual uses flexibility while, girls achieved above average in none of the sub domains of creativity. Boys performed average levels in consequences fluency and blocks creativity while, girls scored average levels in unusual uses flexibility.

Below average scores were obtained by both boys and girls in various sub aspects of creativity such as, inquisitiveness, consequences originality, consequences creativity, unusual uses originality, unusual uses creativity and blocks originality. In addition, girls also scored below average in consequences fluency and blocks creativity.

Comparison of respondents' creativity based on various independent variables

Highly significant differences were observed for seeing problem, unusual uses fluency, consequences fluency, consequences originality, consequences creativity, persistency, blocks originality and total creativity on the basis of academic class. While,

significant results were found in blocks fluency, blocks flexibility and blocks creativity. Eighth class students performed significantly better in seeing problem, unusual uses fluency and blocks originality than their respective counterparts. While, ninth class students were significantly better in consequences fluency, consequences originality, consequences creativity, persistency, blocks fluency, blocks flexibility, blocks creativity and total creativity.

Results elucidated highly significant differences in consequences fluency and inquisitiveness. Further, significant differences were observed in seeing problem, unusual uses originality, unusual uses creativity, persistency, blocks originality, blocks creativity and total creativity. Adolescents who scored 85% to 87% were significantly better in unusual uses originality and unusual uses creativity. Students who scored88% to 90% performed significantly better in seeing problem, consequences fluency, inquisitiveness, persistency and total creativity. Students who scored more than 91% performed significantly better in blocks originality and blocks creativity.

Comparison of creativity across academic performance stress demonstrated highly significant differences for consequences originality and consequences creativity. In seeing problem, consequences fluency, inquisitiveness, blocks flexibility, blocks creativity and total creativity significant differences were observed. Students who never experienced academic performance stress scored significantly better in seeing problem, consequences fluency, consequences originality, consequences creativity, inquisitiveness, blocks flexibility, blocks creativity and total creativity than their respective counterparts.

Highly significant differences were noticed in seeing problem across role of parents for enhancement of respondents' creativity. Significant differences were depicted in unusual uses fluency, unusual uses flexibility and unusual uses creativity. Respondents whose parents paid medium attention were significantly better in seeing problem, unusual uses fluency, unusual uses flexibility and unusual uses creativity.

Comparison of creativity of respondents across role of teachers for enhancement of creativity elucidated highly significant differences in seeing problem and persistency whereas, significant differences were found in unusual uses creativity and blocks creativity. Students whose teachers made high level efforts performed significantly better in seeing problem and persistency. Whereas, students whose teachers made least efforts scored significantly better unusual uses creativity and blocks creativity than their respective counterparts.

Results regarding creativity of respondents across teaching method employed by teachers displayed highly significant differences in consequences originality. Significant differences were revealed in seeing problem, unusual uses originality, unusual uses creativity, consequences creativity, persistency, blocks fluency and blocks creativity. Respondents whose teachers implemented theoretical teaching method scored significantly better in seeing problem, persistency, blocks fluency, blocks originality and blocks creativity. More

influential performances existed where teachers used mixed teaching methods such as in unusual uses originality, unusual uses creativity, consequences originality and consequences creativity than their respective counterparts.

Results showed highly significant differences in unusual uses originality, consequences fluency and blocks originality across type of family. Significant differences were observed in seeing problem, unusual uses fluency, unusual uses creativity, consequences originality and consequences creativity. Adolescents who had joint families were significantly better in unusual uses fluency, unusual uses creativity, consequences fluency, consequences originality and consequences creativity. Respondents who had extended families obtained significantly better scores in blocks originality. Adolescents who had nuclear families scored significantly better in seeing problem and unusual uses originality.

Highly significant differences were portrayed in unusual uses flexibility and unusual uses creativity across parenting style adopted by the parents. Significant differences were found in unusual uses originality, blocks originality, blocks creativity and total creativity. Adolescents whose parents adopted authoritative parenting style were significantly better in blocks creativity. Respondents whose parents adopted authoritarian parenting style were significantly better in unusual uses flexibility, unusual uses creativity and total creativity. While, adolescents whose parents adopted neglectful parenting style scored significantly better in unusual uses originality and blocks originality.

Comparison of creativity of respondents across type of mass media use showed significant differences in unusual uses fluency, unusual uses originality, unusual uses creativity, consequences fluency, consequences creativity, blocks creativity and total creativity. Adolescents who used audio media were significantly better in blocks creativity and those who employed audio-visual media performed significantly better in total creativity. Whereas, respondents who used interactive mass media scored significantly superior in unusual uses fluency, unusual uses originality, unusual uses creativity, consequences fluency and consequences creativity.

Results elucidated highly significant differences in unusual uses creativity, consequences creativity, persistency and total creativity on the basis of gender. Significant differences were observed in unusual uses fluency, unusual uses flexibility, inquisitiveness, blocks originality and blocks creativity. Girls outscored boys in unusual uses fluency, unusual uses flexibility, unusual uses creativity, consequences creativity, persistency, blocks originality and total creativity. Boys were more creative against their counterparts in inquisitiveness and blocks creativity.

On the basis of school type highly significant differences were observed in seeing problem, unusual uses fluency, unusual uses originality, consequences fluency, consequences originality, consequences creativity, blocks flexibility, blocks creativity and total creativity.

Significant differences were depicted in blocks fluency and inquisitiveness scores. Private school students performed significantly better in seeing problem, unusual uses fluency, consequences fluency, consequences originality, consequences creativity, blocks fluency, blocks flexibility, blocks creativity and total creativity. Whereas, in unusual uses originality and inquisitiveness Govt. school students attained significantly better scores as compared to the private school students.

Impact of acceleration program on creativity among adolescents

Pre-testing and post-testing comparison of creativity among experimental group adolescents elucidated highly significant differences for consequences fluency, consequences creativity, inquisitiveness and blocks fluency, whereas, significant differences were found in seeing problem, unusual uses fluency, persistency, blocks flexibility, blocks creativity and total creativity. While, non-significant differences were observed in the remaining sub aspects of creativity. This revealed significant increase of 10.20 percent to 14.98 percent in the respondents' posttests scores over pretest scores in consequences fluency, consequences creativity, inquisitiveness, blocks fluency, seeing problem, unusual uses fluency, persistency, blocks flexibility, blocks creativity and total creativity.

Non-significant increase of 3.91 percent to 9.82 percent in the scores of respondents in post test scores over pretest scores was observed in unusual uses flexibility, unusual uses originality, unusual uses creativity, consequences originality and blocks originality.

Pre-testing and post-testing comparison of creativity among experimental group adolescents based on their gender revealed highly significant differences for boys in the blocks fluency and significant differences in were found in seeing problem, consequences fluency, blocks flexibility and total creativity and significant increase of 13.60 percent to 14.90 percent was recorded in post test scores over pre test scores. Whereas, no significant differences were found in unusual uses fluency, unusual uses flexibility, unusual uses originality, unusual uses creativity, consequences originality, consequences creativity, inquisitiveness, persistency, blocks originality and blocks creativity and non-significant increase of 4.61 percent to 10.35 percent was examined in the post test scores over pre test scores of the above mentioned variables.

Results revealed significant differences for girls in four sub domains of creativity, i.e., seeing problem, consequences originality, blocks fluency and total creativity and significant increase of 12.64 percent to 14.80 percent in post test scores of female respondents over pre test scores was also observed. While, non-significant differences were illustrated in unusual uses fluency, unusual uses flexibility, unusual uses originality, unusual uses creativity, consequences fluency, consequences creativity, inquisitiveness, persistency, blocks flexibility, blocks originality and blocks creativity and non-significant increase ranging from 3.44 percent to 11.25 percent in post test scores over pre test scores was also found.

Pre-testing and post-testing comparison of creativity among experimental group adolescents based on their school type showed significant differences for Govt. school students in seeing problem, unusual uses fluency, unusual uses creativity, consequences fluency, consequences creativity, inquisitiveness and blocks fluency. Significant increase of 11.13 percent to 15.30 percent in post test scores over pre test scores was observed in the above listed variables. Whereas, no significant differences were found in the unusual uses flexibility, unusual uses originality, consequences originality, persistency, blocks flexibility, blocks originality, blocks creativity and total creativity. Non-significant increase of 4.61 percent to 10.97 percent in post test scores over pre test scores was revealed in the above mentioned variables.

Results regarding private schools elucidated significant differences in seeing problem, unusual uses fluency, consequences originality, blocks fluency and total creativity. Significant increase of 12.10 percent to 14.80 percent was recorded in post test scores over pre test scores of the above stated variables. Non-significant differences were portrayed in the unusual uses flexibility, unusual uses originality, unusual uses creativity, consequences fluency, consequences creativity, inquisitiveness, persistency, blocks flexibility, blocks originality and blocks creativity. Non-significant increase of 4.31 percent to 12.62 percent was observed in post test scores over pre test scores was revealed in the above mentioned variables.

Correlations between dependent variables

Seeing problem was highly, positively and significantly correlated with unusual uses flexibility, unusual uses fluency, unusual uses originality, unusual uses creativity, consequences originality, consequences fluency, consequences creativity, blocks flexibility, blocks fluency, blocks creativity and total creativity. It was negatively correlated with persistency and inquisitiveness.

Unusual uses fluency was highly, positively and significantly correlated with unusual uses originality, unusual uses flexibility, unusual uses creativity, consequences originality, consequences fluency, consequences creativity, blocks flexibility, blocks fluency, blocks originality, blocks creativity and total creativity. Unusual uses fluency was negatively correlated with persistency highly and it was negatively significantly correlated with inquisitiveness.

Unusual uses flexibility was found to be highly, positively and significantly correlated with consequences fluency, consequences originality, consequences creativity, unusual uses originality, unusual uses creativity, blocks flexibility, blocks fluency, blocks originality, blocks creativity and total creativity. It was negatively correlated with persistency and inquisitiveness.

Unusual uses originality was highly, positively and significantly correlated with consequences fluency, consequences originality, consequences creativity, unusual uses creativity and total creativity. It was significantly and positively correlated with blocks fluency. Unusual uses originality was negatively correlated with persistency and inquisitiveness, while, it was positively correlated with blocks originality, blocks flexibility and blocks creativity.

The unusual uses creativity was highly, positively and significantly correlated with consequences originality, consequences fluency, consequences creativity, blocks flexibility, blocks fluency, blocks originality, blocks creativity and total creativity. It was negatively correlated with inquisitiveness and persistency.

The consequences fluency was highly, positively and significantly correlated with inquisitiveness, consequences creativity, consequences originality, blocks flexibility, blocks fluency, blocks creativity and total creativity. It was positively and significantly correlated with blocks originality, while, it was negatively correlated with persistency.

Consequences originality was highly, positively and significantly correlated with inquisitiveness, blocks flexibility, blocks fluency, blocks originality, consequences creativity and total creativity. It was positively and significantly correlated with blocks creativity and was negatively correlated with persistency.

Consequences creativity was highly, positively and significantly correlated with blocks flexibility, blocks fluency, blocks creativity, blocks originality, inquisitiveness and total creativity. It was negatively correlated with persistency.

Inquisitiveness was positively correlated with blocks flexibility, blocks fluency, blocks originality, blocks creativity, persistency and total creativity.

Persistency was negatively correlated with blocks originality, blocks fluency, blocks flexibility, blocks creativity and total creativity.

Blocks fluency was highly, positively and significantly correlated with blocks originality, blocks flexibility, blocks creativity and total creativity. It was highly, positively and significantly correlated with blocks creativity, blocks originality and total creativity.

Blocks originality was highly, positively and significantly correlated with total creativity and blocks creativity. Blocks creativity was highly, positively and significantly correlated with total creativity.

Associations between dependent and independent variables

Age, caste, land holding, parenting style, role of parents in adolescents' creativity enhancement, consecutive academic record, academic performance stress, favorite subject, preferable teaching method and time spend on mass media were significantly associated with adolescents' total creativity. Other variables such as, parental occupation, monthly family income, academic class, medium of instruction, self-appraisal of school performance and social media use were highly significantly associated with total creativity.

While, no significant association was observed with the remaining independent variables such as, gender, birth order, sleep disorder, family size, type of family, number of siblings, parental education, type of school, teaching method employed by teachers, role of teachers in adolescents' creativity enhancement and type of mass media.

Conclusion

The present investigation has come out with significant association between the adolescents' creativity and their home and school environment. Differences were observed in the level of creativity among the respondents on the basis of various independent variables. It was found that personal, home and school environment contribute in the development of creativity of the respondents. There were significant correlations between various sub-aspects of creativity. Significant increase in the adolescents' creativity scores was observed after the implementation of acceleration program which means creative abilities can be nurtured and enhanced with proper guidance and planning.

Recommendations for parents and teachers

- The creativity of children should be assessed during their early phases of life.
- Instead of judging and labeling students on the basis of their grade points, both teachers and parents must focus on their creative potential.
- Creativity based acceleration programs and creative teaching styles must be incorporated into ongoing academic session of schools is highly recommended.
- Timely group counseling-cum-motivational sessions and training programs must be organized by researchers for both parents and teachers to guide them about adolescents' age-based needs as per their prominent creative domains.
- As research findings revealed there should be conducive and healthy creativity stimulating home and school environment.
- Adolescents need to be self motivated and properly guided towards exploring their interest areas and creative abilities.

Suggestions for future research

- The present study was time- bound and only restricted to Hisar district of Haryana State. Similar studies could be conducted at wide level in the form of cross-sectional and comparative studies within different zones of India.
- Many factors influence the creative abilities of children. The present study focused only on personal variables, home and school environment. Personality types, giftedness and some hereditary factors could be incorporated in the future researches.
- As present study was conducted at small scale and without Govt. remuneration the acceleration program was only administered for three months. Other researchers may enhance this intervention period for a complete academic session and more satisfactory results maybe expected in return.

REFERENCES

Acar, S., Neumayer, M. and Burnett C. (2019). Social media use and creativity: Exploring the influences on ideational behavior and creative activity. *The Journal of Creative Behavior*, **2**(1), 23-24.

Ahmadi, N. T., Sharif, M. and Ahmadi, A. (2014).The barriers of enhancing creativity developed by parents in developing countries. *Procedia - Social and Behavioral Sciences*, **114**, 257 – 261.

Akinboye, J. O. (2003). Creativity, Innovation and Success. *Sterling Horden Publishers Nigeria Limited*, Ibadan.

Al Aqeel, M., Alshaya, F., and Algyeman, A. (2018). The effect of using enrichment proposed scientific activities in the development of creative thinking to the gifted students at the secondary level. *The Scientific Journal*, **2** (1), 15-17.

Alam, M. M. (2012). Effect of creativity and socio-economic status of students on academic achievement. *Indian Psychological Review*, **72** (1), 35-39.

Anwar, N. M., Rasool, S.S. and Haq, R. (2012).A comparison of creative thinking abilities of high and low achievers secondary school students. *International Interdisciplinary Journal of Education*, **1** (1), 45-48.

Aqil, Z. and Ahamad, E. (2015). Creativity and achievement motivation in adolescents as influenced by their mother's professionalism. *International Journal of Scientific and Engineering Research*, **6** (8), 56-58.

Arnold, M. I., Newman, J. H., Gaddy, B. B., and Dean, C. B. (2005). A look at the condition of rural education research: Setting a direction for future research. *Journal of Research in Rural Education*, **20** (6), 114-118.

Arora, R. (2018). Emotional intelligence of adolescents in relation to creativity. *Imperial Journal of Interdisciplinary Research*, **2** (4), 85-90.

Arya, M. and Maurya, P. S. (2017).Relationship between creativity, intelligence and academic achievement among school going children. *Studies on Home and Community Science*, **10** (1), 1-7.

Awamleh, H., Al Farah. Y., and El Zraigat I. (2019). The level of creative abilities dimensions according to Torrance Formal Test (b) and their relationship with some variables (sex, age, GPA). *International Education Studies*, **5** (6), 120-124.

Baral, R. (2018).Impact of home environment and institutional climate on creativity of high school students. *International Journal of Recent Scientific Research*, **9** (6), 27520-27525.

Begheto, R. A. and Kaufman, J. C. (2009). Do we all have multi-creative potential? *International Journal on Mathematics Education*, **41** (1), 39-44.

Biswal, P., K. (2019). Mass media and rural development. *Odisha Review*. 78-80.

Bouchard, T. J. (2013). The Wilson Effect: the increase in heritability of IQ with age. *Twin Res Hum Genet*, **16** (5), 923-930.

Bouck, E. C. (2004). How size and setting impact education in rural schools. *The Rural Educator*, **3** (25), 38-42.

Budsankom, P., Sawangboon, T., Damrongpanit, S. and Chuensirimongkol, J. (2015). Factors affecting higher order thinking skills of students: A meta-analytic structural equation modeling study. *Journal of Educational Research and Reviews*, **10** (19), 2639-2652.

Charyton, C., Basham, K. M. and Elliott, J. O. (2011).Examining gender with general creativity and preferences for creative persons in college students within the sciences and the arts. *The Journal of Creative Behavior*, **42** (3), 216–222.

Chaudhary, V. (2011).Impact of academic achievement on creativity. *Indian Journal of Psychometry and Education*, **39** (2), 176-177.

Clark, B. (2012). Growing up Gifted: Developing the Potential of Children at Home and at School (6th Ed.). Upper Saddle River, NJ: Merrill Prentice Hall.

Cole, D. G., Sugioka, H. L., and Yamagata-Lynch, L. C. (2014).Supportive classroom environment for creativity in higher education. *Journal of Creative Behavior,* **33** (4), 277-293.

Craft, A. (2003). The limits of creativity in education: Dilemmas for educator. *British Journal of Educational Studies*, **51** (2), 113-127.

Curtis, A. C. (2015). Defining adolescence. *Journal of Adolescent and Family Health*, **7** (2), 1.

Davis, H. A. (2006). Exploring the contexts of relationship quality between middle school students and teachers. *The Elementary School Journal*, **106** (3), 193–223.

Devi, N. (2015). A study of creative thinking of secondary school students in relation to parental disciplinary practices, school climate and need achievement. *Creativity Research Journal*, **8** (3), 309–315.

Dhingra, R. and Sharma, N. (2015).Trends in divergent thinking ability of school children (6-9 years). *International Journal of Recent Scientific Research*, **6** (7), 5532-5536.

Espinosa, H. (2010). The tasks of adolescence: a reading of normal adolescence. *Clinical and Relational Research*, **4** (3), 620–647.

Garaigordobil, M. (2014). Intervention in creativity with children aged 10 and 11 years: impact of a play program on verbal and graphic–figural creativity. *Creativity Research Journal*, **18** (3), 329–345.

Garaigordobil, M. and Berrueco, L. (2014). Effects of a play program on creative thinking of preschool children. *The Spanish Journal of Psychology*, **14** (2), 608-618.

Garg, M. and Agarwaal, J. (2012). Adolescent creative thinking and its relation to the psychosocial environment. *Asian Journal of Home Science*, **3** (1), 171-173.

Glăveanu, V. P. (2010). Principles for a cultural psychology of creativity. *Culture and Psychology*, **16**, 147–163.

Goldberg, E. (2018). Creativity: The Human Brain in the Age of Innovation, Oxford University Press.

Gupta, P. K. (2019). Development and evaluation of creativity training programme for eighth grade students. *Indian Educational Review*, **3** (1), 95-98.

Harris, A. and Goodall, J. (2012). Engaging parents in raising achievement: Do parents know they matter? (DCSF research report RW004), London. Retrieved from http://library.bsl.org.au/jspui/bitstream/1/3469/1/Engaging%20parents%20and%20raising%20achievement_Alma%20Harris_2007%20.pdf.

Henderson, S. J. (2003). The correlates of inventor motivation, creativity and achievement. Unpublished Doctoral Dissertation, Stanford University.

Horng, J. S. and Lee, Y. C. (2012). What environmental factors influence creative culinary studies? *International Journal of Contemporary Hospitality Management*, **21**, 100 – 117.

Imam, A., Singh, G. P., Tiwari, Y. N., (2018).Comparative study of schools under Government and private management with respect to achievement at secondary stage of education in the District of Lucknow. *International Journal of Advanced Education and Research*, **1**(10), 25-29.

Jeenabadi, H., Shahidi, R., Elhamifar, A. and Khademi, H. (2015). Examine the relationship of emotional intelligence and creativity with academic achievement of second period high school students. *Journal of Teacher Education and Research*, **2** (1), 10-15.

Karkockiene, D. (2015). Creativity: Can it be trained? A scientific educology of creativity (Lithuanian special issue).*International Journal of Educology*, 51-58.

Khan, S.A. and Riwannudin, (2015). A study of creativity in relation to achievement motivation of IX standard students of CBSE schools in Aurangabad city. *International Journal of Research and Analytical Reviews*, **2**(2), 74-83.

Khawaldeha, H. M. and Alib, R. M. (2016).The effect of SCAMPER program on creative thinking among gifted and talented students. *International Journal of Sciences: Basic and Applied Research*, **30** (2), 48-58.

Kishor, N. (2012). The study of effects of socio demographic factors of senior secondary school students on creativity and intelligence. *International Interdisciplinary Research Journal*, **2** (5), 198-202.

Kumari. P, Pujar. L., and Naganur. S. (2018).Creative thinking ability among high school children. *IOSR Journal of Humanities and Social Science*, **19** (1), 30-32.

Lerner, R. M. and Castellino, D. (2002). Contemporary developmental theory and adolescence: A developmental systems and applied developmental science. *Journal of Adolescent Health*, **31**(6S), 122-135.

Lew, H. K. (2015). The effect of the home environment on adolescents' creativity. *Advanced Science and Technology Letters*, **9** (2), 42-30.

Lew, H. K. and Cho, J. (2013).Creativity analysis for smart specialist of the Ubiquitous Era. *International Journal of Smart Home*, **7** (4), 183-194.

Louca, E. P., Marouchou, Mihai. S. and Konis, E. (2014). Teaching for creativity in universities. *Journal of Education and Human Development*, **3** (4), 131-154.

Majid, M. and Fatemah, A.B. (2018). Intuition in relation to creative motivation, emotional intelligence and achievement motivation among secondary school adolescents. *Indian Journal of School Science Researches*, **6** (2), 23-26.

Manisha, A. (2012). Study of Hindi language creativity of class IX students in relation to their achievement in Hindi. *International Indexed and Referred Research Journal*, **4** (37), 45-46.

Mankar, J. P., Ugale, S. U. and Rothe, S. P. (2013).Creativity in children as function of parent occupation and socio-economic status. *International Multidisciplinary Research Journal*, **1** (4), 17-18.

May, R. (2007). Sharing literacy: Guiding principles and practices for parental involvement. *Education and Urban Society*, **41** (7), 508-513.

Müller-Riemenschneider, F., Petrunoff, N.andSia (2018). Prescribing physical activity in parks to improve health and wellbeing: protocol of the park prescription randomized controlled trial. *International Journal of Environmental Research and Public Health*, **15** (6), 1154–1213.

Nadeem, N.A. and Wani, T.A. (2013).Personality structure and creative potential of male and female academically gifted students. *Basic Research Journal of Education Research and Review,* **2** (3), 55-58.

Narula, N. (2011). A study of academic achievement in mathematics in relations to emotional intelligence, creativity learning styles and mathematical aptitude at high school stage, unpublished thesis submitted for the Ph.D., in the subject of Education to the Punjab University, Chandigarh.

Padmalosani, P. and Uma R. (2019).Impact of social media on youth. *International Journal of Innovative Technology and Exploring Engineering*, **8** (115), 786-787.

Palaniappan, A. K. (2011). Academic achievement of groups formed based on creativity and intelligence. *International Multidisciplinary Research Journal*, **1** (4), 145-151.

Passi, B. K. (2006). *Passi Tests of Creativity. National Psychological Corporation,* Agra.

Piirto, J. (2019). Talented Children and Adults: Their Development and Education (2nd Ed.). Upper Saddle River, NJ: Merrill.

Qaisy, L.M. and Turki, J. (2012).Adolescent creativity, Selby concept and achievement motivation. *British Journal*, **2** (2), 88-90.

Rana, S. (2016).Creativity and emotional intelligence among adolescents. Unpublished Master's Thesis.CCS Haryana Agricultural University, Hisar, India.

Rani, G. and Dalal, S. (2013). Relationship of creativity and intelligence of senior secondary students. *International Journal of Humanities and Social Science Invention*, **2** (7), 70-74.

Rao, V.T and Satyapal. (2013). Socio-economic status, scheduled caste and creativity. *International Journal of Transformations in Business Management*, **1** (4), 22-32.

Reddy, K. J., Viswanath, K. and Reddy, S.V. (2015).Impact of demographical variables on non-verbal creativity among high school students. *The International Journal of Indian Psychology*, **2** (4), 105-115.

Roke, L. and Kalis, E. (2017). Is there a link between creativity and school grades? Research with 9th grade students. *International Journal of Psychology*, **16** (1), 7-22.

Rose, V. J. L. (2016). A study on factors affecting creativity and teachers impact on it: Students perspectives. *International Journal of Advance Research in Computer Science and Management Studies*, **4** (6), 64-66.

Roue, L. (2014). Gender based differences in school-aged children's divergent thinking abilities. *International Journal of Cognitive Research in Science, Engineering and Education*, **2** (2), 1-6.

Runco, M.A. (2007). Creativity: Theories and Themes: Research, Development and Practice. San Diego, CA: Academic Press.

Sanchez- Ruiz, M. J., Hernadez-Torrano, D., Perez- Gonzalez, J. C., Batey, M. and Petrides, K.V. (2013).The relationship between trait emotional intelligence and creativity across subject domains. *Motivation and Emotion*, **35** (4), 461-473.

Schelbe, L., Chanmugam, A., Moses, T., Saltzburg, S., and Williams, L. (2015). Youth participation in qualitative research: Challenges and possibilities. *Qualitative Social Work*, **14**(4), 504-511.

Sharma, R. (2014). Effect of school and home environments on creativity of children. Retrieved from www.mierjs.in/ojs/index.php/mjestp/article/viewFile/53/30.

Siddiqi, S. (2011).A comparative study of creativity among boys and girls of class VII. *Indian Educational Review*, **49** (2), 5-14.

Simone M. R. and Nel, M. (2017). Enhancement of creative thinking skills using a cognitive-based creativity training. *Journal of Cognitive Enhancement*, **1,** 243–253.

Singh, C. K. and Beniwal, P. (2016). Creativity and intellectual abilities of adolescents', unpublished thesis submitted for the degree of Master of Science, in the subject of Human Development and Family Studies to the CCS Haryana Agricultural University.

Singh, C. K. and Rana, S. (2016). Creativity and emotional intelligence among adolescents, unpublished thesis submitted for the degree of Master of Science, in the subject of Human Development and Family Studies to the CCS Haryana Agricultural University.

Singh, J. and Kaur, P. (2015).Personality characteristics of creative students in relation to their gender and socio-economic status. *International Journal of Advanced Research in Management and Social Sciences*, **2** (4), 44-52.

Sinha, K. (2011). Language creativity of central and state boards school students. *Psycho-lingua*, **38** (1), 19-23.

Siswono, T. (2010). Level of student's creative thinking in solving posing mathematical problem. *Educational Research and Review*, **1** (1), 17-40.

Siswono, T. (2011).Level of student's creative thinking in classroom mathematics. *Educational Research and Review*, **6** (7), 548-553.

Spear, L. P. (2000).The adolescent brain and age-related behavioral manifestations. *Neuroscience and Bio-behavioral Reviews*, **24**, 417-463.

Steinberg, L. (2005). Cognitive and affective development in adolescence. *Trends in Cognitive Sciences*, **9** (2), 69-74.

Sumangala, N. (2014). A study of language creativity of IX Standard students in relation to intelligence and gender. *International Journal of Educational Planning and Administration*, **4** (2), 109-112.

Szilvia, P.S. (2013).Creative climate as means to promote creativity in the classroom. *Electronic Journal of Research in Psychology*, **10** (3), 1011-1034.

Szobiova, E. (2014). Creativity: Unraveling the Mystery. First Edition Prague: Wolters Kluwer, ISBN 978-80-7478-564-1

Taneri, O. P. (2014). Roles of parents in enhancing children's creative thinking skills. *Journal of Human science*, **9** (2), 91-108.

Tasaduq, N. and Azim, H. (2012). Creativity levels between private and government school children in Srinagar city (7^{th} -10^{th} grade). *International Journal of Education Science*, **4** (3), 255-259.

Tehlan, B. I. (2015). A comparative study of creativity of students in relation to their home environment. *International Journal of Advanced Research in Management and Social Sciences*, **4** (4), 189-197.

Torrance, E. P., Boll, O. and Aliotti, N.C. (2008). Sex differences in levels of performance thinking. *Journal of Creative Behavior*, **3** (1), 42-47.

Trivedi, K. and Bhargava, R. (2010).Relation of creativity and educational achievement in adolescence. *Journal of Psychology*, **1** (2), 85-89.

Tsai, K. C. (2019). The efficacy of play on divergent thinking of adolescent learners. *Journal of Studies in Education*, **2** (4), 67-78.

Tunde, S. U. (2013). Assessment of creativity level of secondary school students in Moro local Government area of Kwara state, Nigeria. *Mediterranean Journal of Social Science*, **3** (14), 36-41.

Turkey, J. (2018). The level of creative thinking skills among gifted and ordinary students in Tafila Governorate. *Journal of Studies in Education*, **8** (1), 134-136.

Vaida, N. (2013). A comparative study on creativity among boys and girls in district Shopian. *International Journal of Social Science*, **1** (6), 1-5.

Valentini, M., Troiano, G., and Balzano, S. (2014). Motor activity in the development of the individual's divergent thinking and self-esteem. *Education*, **2** (5), 123-129.

Verma, R. (2013). Effect of school and home environment on language creativity of children. *Annual Review of Psychology*, **32** (4), 430-476.

Walia, P. (2013). Achievement in relation to mathematical creativity of 8th grade students. *Indian Streams Research Journal*, **2** (2), 1-4.

Wasake (2014).A comparative study of creativity of male and female senior college students in Chandrapur Taluka with reference to their achievement. *Online International Interdisciplinary Research Journal*, **4** (1), 258-261.

Wu, W. (2011).Development trend study of divergent thinking among students from primary to middle school. *International Journal of Psychological Studies*, **2** (1), 122-127.

Yadav, R. (2015). A study of creative thinking in relation to intelligence and self-concept of 10+2 students. *International Journal of Educational Planning and Administration*, **5** (1), 7-10.

Zirak, M. and Ahmadian, E. (2015).The relationship between emotional intelligence and creative thinking with academic achievement of primary school students of fifth grade. *Mediterranean Journal of Social Sciences*, **6** (1), 598-611.

Annexure-1

Self- Prepared Fully Structured Questionnaire for Personal and Socio-economic Variables
''व्यक्तिगत और सामाजिक–आर्थिक जाँच हेतु पूर्णतः संरचित एवं स्वयं–निर्मित प्रश्नावली''

1. Name (नाम):

2. कक्षा Class:
   1. Eighth (आठवीं) 2. Ninth (नौंवी) 3. Tenth (दसवीं)

3. Name of School (स्कूल का नाम):

4. Sex(लिंग) : 1. Male (पुरूष) 2. Female (स्त्री)

5. Age (उम्र) (in Years) (साल मे):
   a) 12 Year and Less than 12 Year (12 साल या उससे कम)
   b) 13 Year (13 साल)
   c) 14 Year and More than 14 Year (14 साल या उससे अधिक)

6. Birth Order (जन्म क्रमांक):
   a) First Born (सबसे पहले स्थान पर)
   b) Second Born (दूसरे स्थान पर)
   c) Third Born (तीसरे स्थान पर)
   d) Fourth Born (चौथे स्थान पर)

7. Residential Locality (निवास स्थान):
   a) Urban (शहरी)
   b) Rural (ग्रामीण)

8. Caste (जाति)
   1. General (सामान्य) 2. SC (Scheduled Caste) (एस.सी.) 3. BC (Backward Caste) (बी.सी)

9. Religion (धर्म)

10. Type of School (स्कूल का प्रकार)
    a) Government (सरकारी)
    b) Private (निजी)

11. Your School Gets Financial Aid from (आपके स्कूल का आर्थिक सहायता कहाँ से मिलती है?):
    a) Government (सरकार द्वारा)
    b) Semi- Government (दोनों–सरकार एवं निजी संस्थानों द्वारा)

c) Private Funding (निजी संस्थानों द्वारा)

12. Medium of Instruction Used at School (निर्देशन का माध्यम)
    a) Hindi (हिंदी)
    b) English (अंग्रेजी)
    c) Both Hindi and English (Bilingual) (दोनों हिन्दी एवं अंग्रेजी)

13. Number of Members in your Family (परिवार में सदस्यों की संख्या)
    a) 3-5 Members (3–5 सदस्य)
    b) 6-8 Members (6–8 सदस्य)
    c) 9-11 Members (9–11 सदस्य)
    d) More than 11 Members (11 से अधिक)

14. Number of Siblings (भाई–बहनों की संख्या)
    a) None (एक भी नहीं)
    b) One (एक)
    c) Two (दो)
    d) Three and more (तीन और उससे अधिक)

15. Mother's Name (माँ का नाम)
    a) Mother's Education: (माँ की शैक्षणिक योग्यता)
        1. Illiterate (अशिक्षित) 2. Up to Matriculation (दसवीं तक)
        3. Graduate (स्नातक) 4. Post Graduate (स्नातकोत्तर)

    b) Mother's Occupation(माँ का व्यवसाय):
        1. Homemaker (गृहिणी) 2. Agriculture (कृषि)
        3. Private Sector (निजी क्षेत्र में) 4. Government Employee (सरकारी कर्मचारी)

16. Father's Name (पिता का नाम)
    a) Father's Education (पिता की योग्यता):
        1. Illiterate (अशिक्षित) 2. Up to Matriculation (दसवीं तक)
        3. Graduate (स्नातक) 4. Post Graduate (स्नातकोत्तर)
    b) Father's Occupation (पिता का व्यवसाय):
        1. Agriculture (कृषि) 2. Private Sector (निजी क्षेत्र में)
        3. Government Employee (सरकारी कर्मचारी)

17. Monthly Family Income (परिवार की हर महीने आय)

a) Less than Rs. 10,000 (रू0 10,000 से कम)

b) Rs. 10,00 to Rs. 30,000 (रू0 10,000 से 30,000)

c) Rs. 30,000 to Rs. 50,000 (रू0 30,000 से 50,000)

d) More than Rs. 50,000 (रू0 50,000 से अधिक)

18. Land Holding (भूमि–धारण)
    a) Less than 2 Acre (2 एकड़ से कम)
    b) 2-5 Acre (2 से 5 एकड़)
    c) 5-10 Acre (5 से 10 एकड़)
    d) More than 10 Acre (10 एकड़ से अधिक)

19. Which Type of Family Do You Have (पारिवारिक संरचना)
    (a) Single Parent (एक अभिभावक परिवार)
    (b) Joint (संयुक्त परिवार)
    (c) Extended (विस्तृत परिवार)
    (d) Nuclear (एंकाकी परिवार)

20. Consecutive Academic Record of Last Three Years/ Classes Marks (in Percentage)
    लगातार पिछले तीन वर्षो के अंक प्रतिशत में
    a) April 2017 (अप्रैल 2017)
    b) April 2018 (अप्रैल 2018)
    c) April 2019 (अप्रैल 2019)

21. How you would Rate Your Performance in School?
    आप स्कूल में अपने प्रदर्शन को किस तरह आँकते हैं?
        a) Above Average (औसत से अधिक)
        b) Average (औसतन)
        c) Below Average (औसत से कम)

22. Do you feel stressed due to academic performance as compared to your classmates and your parents' expectations?
    क्या आप अपने शैक्षणिक प्रदर्शन को अपने सहपाठियों और अपने माता–पिता की उम्मीदों से आंकलन करके तनाव महसूस करते हैं?
        a) Never (कभी नहीं)
        b) Sometimes (कभी–कभी)
        c) Always (हमेशा)

23. Do you face irregular sleep disorder (like insomnia) due to academic performance pressure?
    क्या आपको अपनी शैक्षणिक प्रदर्शन के बारे में हमेशा चिंतित रहने के कारण, निंद्रा सम्बन्धित अनियमितता (जैसे कि रात भर नींद ना आना) का सामना करना पड़ रहा है?
        a) Never (कभी नहीं)
        b) Sometimes (कभी–कभी)
        c) Always (हमेशा)

24. Which Is/Are Your Favorite Subject(s)?
    आपका पंसदीदा विषय कौन–सा है?
        a) Hindi (हिन्दी)
        b) English (अंग्रेजी)
        c) Mathematics (गणित)
        d) Science (विज्ञान)
        e) Social Science (सामाजिक विज्ञान)

25. Which Teaching Method Do You Prefer for Effective Learning in the classroom?
आप कौन–सी विधि को प्रभावी अधिगम मानते हैं?
    a) Theoretical/ Simple Dictation/ Rot Learning (सैद्धांतिक शिक्षण विधि)
    b) Demonstration/ Practical/ Learning by Doing (व्यवहारिक शिक्षण विधि)
    c) Mixed/ Combined (Theoretical and Practical) (मिश्रित शिक्षण विधि)

26. How Often Do You Get Diseased in a month?
आप एक महीने में कितनी बार बीमार पड़ते हैं?
    a) Quite Often (काफी बार)
    b) Sometimes (कभी–कभी)
    c) Rarely (बहुत कम)

27. Do you have any Health Risk(s)?
स्वास्थ्य जोखिम
    a) Chronic Health Problems (Obesity, Diabetes, Asthma, Anemia, Under- nutrition, Pneumonia, Polio, Cancer, Renal Problems etc.) Yes/ No (जीर्ण रोग विकार) हाँ/नहीं
    b) Acute Health Problems (Infectious Disease, Common Cold, Cold Flu/ Sore Throat, Fever, Headache, Cough etc.) Yes/ No (तीव्र रोग विकार) हाँ/नहीं
    c) None of the above दोनों में से कोई भी नहीं।

28. Do you have Any Physical / Chromosomal Deformity?
क्या आपको कोई शारीरिक/गुणसूत्रीय विकार है?
    a) Yes (हाँ)
    b) No (नहीं)

Mass Media Exposure (संचार मीडिया "माध्यम" तक पहुँच)

29. Which Type of Mass Media Do You Like In Your Routine Life?
आप अपनी रोजमर्रा की जिन्दगी में कौन–सा संचार का माध्यम इस्तेमाल करते हैं?
    a) Print (Newspaper, Pamphlet, Magazine etc) (छपाई वाला)
    b) Audio (Radio Programmes, Lecture etc) (सुनने वाला)
    c) Audio-Visual (Television, Demonstration, Mobile phone related Apps like You Tube Videos etc) (सुनने एवं देखने वाला)
    d) Interactive (Practical, Online Learning via Various Apps etc.) (परस्पर संवादात्मक)

30. How much time do you spend daily on using mass media?
आप रोजाना संचार माध्यमों में अपना कितना समय व्यतीत करते हैं?
    a) Less than 3 hours (3 घंटों से कम)
    b) 4-7 hours (4–7 घंटे)
    c) More than 8 hours (8 घंटों से अधिक)

31. Currently, are you on any social media (Face-book, G-mail, LinkedIn, Whats app, Twitter, Instagram etc.) platform?
वर्तमान समय में क्या आप किसी सामाजिक संचार माध्यम का इस्तेमाल कर रहे हैं?
    a) Yes (हाँ) b) No (नहीं)

Parenting Styles Followed by Parents (अभिभावकों द्वारा अपनाई जाने वाली विभिन्न परवरिश शैलियां)

a. Authoritative Parenting Style (अधिकारिक परवरिश शैली)

32. If your parents takes decisions in the family through reasoning and discipline?
    क्या आपके अभिभावक परिवार के फैसले तर्क और अनुशासन द्वारा लेते हैं?
    a) Never (कभी नहीं)
    b) Sometimes (कभी–कभी)
    c) Always (हमेशा)

33. If your parents discuss their expectations regarding your academic achievement and daily routine?
    क्या आपके अभिभावक आपकी शैक्षशिक योग्यता और गृहकार्य के बारे में बातें करते हैं?

a) Never (कभी नहीं)
b) Sometimes (कभी–कभी)
c) Always (हमेशा)

34. If your parents have fixed standards regarding behavior?
    क्या आपके अभिभावक आपसे पहले से तय व्यवहार की उम्मीद रखते हैं?

a) Never (कभी नहीं)
b) Sometimes (कभी–कभी)
c) Always (हमेशा)

35. If your parents take your opinions into consideration while making decisions related to you?
    क्या आपके अभिभावक आपसे सम्बन्धित कोई भी फैसला लेने से पहले आपसे मशवरा करते है?

a) Never (कभी नहीं)
b) Sometimes (कभी–कभी)
c) Always (हमेशा)

b. Authoritarian Parenting Style (सत्तावादी परवरिश शैली)

36. If your parents don't agree on opinions and decisions taken by you regarding your studies?
    क्या आपके अभिभावक आपके शिक्षा सम्बन्धित फैसलों पर सहमत नहीं होते हैं?

a) Never (कभी नहीं)
b) Sometimes (कभी–कभी)
c) Always (हमेशा)

37. If your parents expects you to do things immediately without asking any questions?
    क्या आपके माता–पिता आपसे कोई सवाल–जवाब किए बिना तुरन्त कोई भी काम करने की उम्मीद करते हैं?

a) Never (कभी नहीं)
b) Sometimes (कभी–कभी)
c) Always (हमेशा)

38. If your parents do not allow you to question any decision made by them regarding your hobbies and studies?
    क्या आपके अभिभावक, आपकी रूचियों और शिक्षा से सम्बन्धित कोई भी फैसला, आपसे बातचीत किए बिना लेते हैं?

a) Never (कभी नहीं)

b) Sometimes (कभी–कभी)
c) Always (हमेशा)

c. Indulgent Parenting Style (अनुग्रहशील परवरिश शैली)

39. If your parents feel that in a well-cultured home the children should have their particular etiquettes?
क्या आपके अभिभावकों को लगता है कि एक सुसंस्कृत परिवार में बच्चों का शिष्टाचारी होना जरूरी होता है?

a) Never (कभी नहीं)
b) Sometimes (कभी–कभी)
c) Always (हमेशा)

40. If your parents favor that what children need is to be free to make up their own minds and to do what they want to do?
क्या आपके माता–पिता सोचते हैं कि बच्चों को अपनी इच्छानुसार फैसले लेने की स्वतन्त्रता होनी चाहिए?

a) Never (कभी नहीं)
b) Sometimes (कभी कभी)
c) Always (हमेशा)

41. If your parents feel that their children need to obey specific rules and regulations of behavior at school premises?
क्या आपके अभिभावकों को लगता है कि बच्चों को स्कूल में अनुशासनात्मक व्यवहार करना चाहिए?

a) Never (कभी नहीं)
b) Sometimes (कभी –कभी)
c) Always (हमेशा)

d. Neglectful Parenting Style (लापरवाह परवरिश शैली)

42. If your parents have very few demands and expectations from you on academic grounds?
क्या आपके माता–पिता आपकी शैक्षणिक योग्यता को लेकर बहुत कम उम्मीदें रखते हैं?

a) Never (कभी नहीं)
b) Sometimes (कभी –कभी)
c) Always (हमेशा)

43. If your parents do not really care about what's going on in social and personal life?
क्या आपके अभिभावक आपकी सामाजिक एवं व्यक्तिगत जिन्दगी को लेकर ज्यादा चिंतित नहीं रहते हैं?

a) Never (कभी नहीं)
b) Sometimes (कभी–कभी)
c) Always (हमेशा)

44. If your parents provides plenty of freedom at home?
क्या आपके माता–पिता आपका घर पर आजादी से रहना पसन्द करते हैं?

a) Never (कभी नहीं)
b) Sometimes (कभी –कभी)
c) Always (हमेशा)

Role of Parents in Enhancing Academic Achievement and Creativity among Their Children
अभिभावकों का बच्चों की शैक्षणिक योग्यता एवं रचनात्मकता को बढ़ाने में सहयोग

45. If your parents encourage you in repairing some small objects. (Yes/ No)
    क्या आपके माता–पिता आपको घर की छोटी–छोटी खराब मशीनों को ठीक करने के लिए आपको भी प्रोत्साहित करते हैं? (हाँ/नहीं)
46. If your parents assist you in finding new solution for any problems related to academics and routine life? (Yes/No)
    क्या आपके अभिभावक आपको किसी भी स्कूल सम्बन्धित या रोजमर्रा की जिन्दगी में आने वाली परेशानियों को हल करने में आपकी मदद करते हैं? (हाँ/नहीं)
47. If your parents provides you enough liberty to face problems individually? (Yes/No)
    क्या आपके माता–पिता आपको अपनी समस्याओं का समाधान अपने–आप करने की आजादी देते हैं? (हाँ/नहीं)
48. If your parents favor free discussion in the family? (Yes/No)
    क्या आपके अभिभावक परिवार में खुली–चर्चा को पसंद करते हैं? (हाँ/नहीं)
49. If your parents gives you independence in doing your work in a new manner? (Yes/No)
    क्या आपके माता–पिता आपको अपना काम नए तरीके से करने की स्वतन्त्रता देते हैं? (हाँ/नहीं)
50. If your parents encourages story telling habit in you? (Yes/No)
    क्या आपके अभिभावक आपकी कहानी बयान करने की कला पर आपको प्रोत्साहित करते हैं? (हाँ/नहीं)
51. If your parents reward you by giving gifts for any new or innovative work? (Yes/No)
    क्या आपके माता–पिता आपकी परिवर्तनात्मक सोच/कार्य को सम्मानित करते हैं? (हाँ/नहीं)
52. If your parents spend time playing with you? (Yes/No)
    क्या आपके माता–पिता आपके साथ खेलते हुए समय व्यतीत करते हैं? (हाँ/नहीं)
53. If your parents give freedom to express your ideas freely? (Yes/No)
    क्या आपके अभिभावक आपको अपने विचार स्वतन्त्रतापूर्वक जाहिर करने की आजादी देते हैं? (हाँ/नहीं)
54. If your parents encourage you to mix with other children freely? (Yes/No)
    क्या आपके माता–पिता आपको दूसरे बच्चों के साथ मित्रता करने के लिए प्रोत्साहित करते हैं? (हाँ/नहीं)
55. If your parents answer all your questions patiently? (Yes/No)
    क्या आपके अभिभावक आपके सारे प्रश्नों का जवाब बेहद शांतिप्रिय तरीके से देते हैं? (हाँ/नहीं)
56. If your parents motivates you to watch scientific programmes on T.V? (Yes/No)
    क्या आपके माता–पिता आपको टी0वी0 पर वैज्ञानिक कार्यक्रम देखने के लिए प्रेरित करते हैं? (हाँ/नहीं)
57. If your parents purchase scientific journals/ books for you? (Yes/No)
    क्या आपके अभिभावक आपको विज्ञान–सम्बन्धित किताबें खरीद कर देते हैं? (हाँ/नहीं)
58. If your parents encourage your curiosity and desire to know new things? (Yes/No)
    क्या आपके माता–पिता आपकी नई चीजों के बारे में जानने की जिज्ञासा और इच्छा की कद्र करते हैं? (हाँ/नहीं)
59. If your parents encourage you to try simple musical compositions? (Yes/No)

क्या आपके अभिभावक आपको सरल संगीत–सम्बन्धित रचनाएं बनाने के लिए प्रेरित करते हैं? (हाँ/नहीं)

60. If your parents encourage you for free drawing and painting? (Yes/No)

क्या आपके माता–पिता आपको चित्राकंन एवं चित्रकारी करने के लिए प्रोत्साहित करते हैं? (हाँ/नहीं)

Role of Teachers in Enhancing Academic Achievement and Creativity among Students
अध्यापकों का छात्रों की शैक्षणिक योग्यता एवं रचनात्मकता को बढ़ावा देने में योगदान

61. Does your teacher teach in interesting and enthusiastic way in classroom?
क्या आपके अध्यापक कक्षा में दिलचस्प और उत्साही तरीके से पढ़ाते हैं?

a) Never (कभी–कभी)
b) Sometimes (कभी नहीं)
c) Always (हमेशा)

62. Does teachers/School plans your curriculum and class-activities keeping in view to student-individuality?
क्या आपके अध्यापक/स्कूल पाठ्यक्रम और कक्षा में करवाई जाने वाली गतिविधियां प्रत्येक छात्र को ध्यान में रखकर करते हैं?

a) Yes (हाँ)
b) No (नहीं)

63. Does your teacher provide you timely motivation to increase your participation in co-curricular activities?
क्या आपके शिक्षक छात्रों को सह–पाठ्यक्रम गतिविधियों में भाग लेने के लिए प्रोत्साहित करते हैं?

a) Never (कभी नहीं)
b) Sometimes (कभी–कभी)
c) Always (हमेशा)

64. Does your teacher timely organize Parent-Teacher- Meetings?
क्या आपके अध्यापक समय–समय पर आपके अभिभावकों से मिलकर आपके शैक्षणिक–प्रदर्शन का विवरण उन्हें देते हैं?

a) Never (कभी नहीं)
b) Sometimes (कभी–कभी)
c) Always (हमेशा)

65. Does teacher create learning environment by briefly discussing about the contents of the lecture before actually teaching the lesson?
क्या आपके शिक्षक कोई भी नया पाठ पढ़ाने से पहले उसके बारे में संक्षिप्त विवरण देकर छात्रों के लिए सीखने का माहौल बनाते हैं?

a) Never (कभी नहीं)
b) Sometimes (कभी–कभी)
c) Always (हमेशा)

66. Does your teacher ensure about the active participation of all the students in classroom-teaching?
क्या आपके अध्यापक पढ़ाते समय प्रत्येक छात्र की सक्रिए सह–भागिता को सुनिश्चित करते हैं?

a) Never (कभी नहीं)
b) Sometimes (कभी–कभी)
c) Always (हमेशा)

67. Which Teaching Method Your Teacher Uses in the Classroom?
    आपके शिक्षक कौन–सी शिक्षण्ण विधि द्वारा कक्षा में पढ़ाते हैं?
    a) Theoretical/ Simple Dictation/ Rot Learning (सैद्धांतिक शिक्षण विधि)
    b) Demonstration/ Practical/ Learning by Doing (व्यवहारिक शिक्षण विधि)
    c) Mixed/ Combined (Theoretical and Practical) (मिश्रित शिक्षण विधि)

68. If you are satisfied with the teaching method employed by your teachers in the classroom? (Yes/No)
    क्या आपके शिक्षण में उपयोग की जाने वाली शिक्षण विधि से संतुष्ट हैं? (हाँ/नहीं)
69. If your Teacher provides opportunities for each student's success by assigning tasks that are neither too difficult nor too easy? (Yes/No)
    क्या आपके अध्यापक प्रत्येक छात्र की सफलता के लिए उचित अवसर देते हैं? (हाँ/नहीं)
70. If your Teacher encourage students to frame answers in their own words? (Yes/No)
    क्या आपके शिक्षक छात्रों को अपने शब्दों में प्रश्नों के उत्तर देने के लिए प्रेरित करते हैं? (हाँ/नहीं)
71. If your Teacher encourage students to try solutions to mathematical problems in as many as simple ways possible ?(Yes/No)
    क्या आपके अध्यापक गणित के प्रश्नों को बहुत सारे तरीकों से हल करना सिखाते हैं? (हाँ/नहीं)
72. If your Teacher make the students to perform experiments on the basis of lessons taught in the class. (Yes/No)
    क्या आपके शिक्षक कक्षा में पढ़ाए हुए पाठ्यक्रम में से अलग–अलग तरह के प्रयोग करने के उत्साहित करते हैं? (हाँ/नहीं)
73. If your Teacher motivates the students list out the new things they have seen or read? (Yes/No)
    क्या आपके अध्यापक छात्रों को कक्षा में नई–नई बातें (जो उन्होंने कहीं पर पढ़ी या देखी हों) बताने के लिए प्रोत्साहित करते हैं (हाँ/नहीं)
74. If your Teacher encourage the students to gather information from experts in different fields. (Yes/No)
    क्या आपके शिक्षक छात्रों को अलग–अलग विषयों के विशेषज्ञों से मिलकर उनसे नई जानकारियाँ इकट्ठा करने के लिए प्रेरित करते हैं? (हाँ/नहीं)
75. If your Teacher encourage the students to try out new methods of learning than the methods taught in class? (Yes/No)
    क्या आपके अध्यापक छात्रों को कक्षा में पढ़ाए जाने वालों तरीकों के अलावा नए–नए तरीकों से चीजों को समझने के लिए प्रोत्साहित करते हैं? (हाँ/नहीं)
76. If your Teacher encourage the students to collect clippings from newspapers and magazines regarding new discoveries of scientists? (Yes/No)
    क्या आपके शिक्षक छात्रों को अखबारों और पत्रिकाओं में से नई–नई खोजों के बारे में जानकारी हासिल करने के लिए प्रेरित करते हैं? (हाँ/नहीं)
77. If your Teacher motivate the students to prepare models for science fairs and exhibitions? (Yes/No)

क्या आपके अध्यापकगा विज्ञान–सम्बन्धित मेलों और प्रदर्शनियों के लिए मॉडल बनाने में छात्रों की मदद करते हैं? (हाँ/नहीं)

78. If your Teacher encourage the students to participate in science fairs and exhibitions? (Yes/No)
    क्या आपके शिक्षक विज्ञान–सम्बन्धित मेलों और प्रदर्शनियों में भाग लेने के लिए छात्रों को प्रेरित करते हैं? (हाँ/नहीं)
79. If your Teacher encourage the students to try out the cross words, puzzles in computer, newspapers and magazines? (Yes/No)
    क्या आपके अध्यापक छात्रों को अखबारों, कंप्यूटरों एवं पत्रिकाओं में छपने वाली वर्ग पहेलियों को हल करने के लिए प्रेरित करते हैं? (हाँ/नहीं)
80. If your Teacher give extra marks to students who express new and innovative ideas in their examination sheets? (Yes/No)
    क्या आपके शिक्षक छात्रों को परीक्षा में अलग और नए विचार व्यक्त करने पर अतिरिक्त अंक देते हैं? (हाँ/नहीं)

Annexure-2

B.K. Passi Test of Creativity
बी.के. पासी रचनात्मकता परीक्षण
(Verbal and Non-Verbal)
(मौखिक एवं अशाब्दिक)

TEST -1 (Seeing Problems Test)
परीक्षण–1 (समस्या जाँचने का परीक्षण)

Identify the defects and problems of the following objects and write them below:
नीचे लिखी हुई वस्तुओं के ''दोषों और समस्याओं'' के बारे में सोचें और संक्षिप्त रूप में लिखें।

Object 1- Shoes
वस्तु 1 – जूते

1.	
2.	
3.	
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Object 2- Pen
वस्तु 2 – पैन

1.	
2.	
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Object 3- Chair
वस्तु 3 – कुर्सी

1.	
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Object 4- Post Card
वस्तु 4 – पोस्ट–कार्ड

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TEST -2 (Unusual Uses Test)
परीक्षण–2 (असाधारण प्रयोग परीक्षण)

Think about the different uses of the following objects and write them below:
निम्नलिखित वस्तुओं के अधिक से अधिक मौलिक, असाधारण और मनोरंजक प्रयोगों के बारे में लिखें।

Object 1- Piece of Cloth
वस्तु 1 – कपड़े का टुकड़ा

1.	
2.	
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Object 2- Bottle
वस्तु 1 – बोतल

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TEST- 3 (Consequences Test)
परीक्षण–3 (परिणाम परीक्षण)

Analyze the following statements and try to think about the various possible consequences of them and write them below:
निम्नलिखित कथनों को पढ़कर उनसे सम्बन्धित अधिक से अधिक परिणाम लिखने की कोशिश करें।

Statement 1: If human beings start flying like birds.
कथन 1 : यदि पक्षियों की तरह मानव भी उड़ना प्रारम्भ कर दे तो

1.	
2.	
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Statement 2: If all houses start flying.
कथन–2 : यदि सभी घर उड़ना शुरू कर दें तो

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Statement 3: If all people become rich.
कथन–3 : यदि सभी व्यक्ति अमीर हो जायें तो

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Statement 4 : If all females become males
कथन –4 : यदि सभी स्त्रियाँ पुरूष हो जाये तो

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TEST- 4 (Test of Inquisitiveness)
परीक्षण–4 (प्रश्नात्मक योग्यता परीक्षण)

There are few articles on the teacher's table covered with a cloth. You all must be eager to know about them. Just try to imagine and write them down below what these articles/ objects can be and where these can be used when these will be uncovered.

आपके सामने अध्यापक की मेज पर कपड़े से ढकी हुई कुछ चीजें रखी हैं। आप इनके विषय में जानने के लिए बहुत उत्सुक होंगे तथा बहुत से कथन सोच रहे होंगे। आओ हम देखें कि जब मैं इनके ऊपर से कपड़ा उठा दूँ तो आप इनके विषय में कितने भिन्न–भिन्न प्रकार के कथन लिख सकते हैं।

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TEST- 5(Test of Square Puzzles/ Test of Persistency)
परीक्षण–5 (वर्ग पहेली परीक्षण)

This test consists of 5 identical right- angled triangles and 5 identical quadrilaterals made-up of plastic. Construct a square by using all these 10 given plastic pieces without leaving any gap for overlay in between the pieces. The score of persistency is considered as the time taken in complete minutes on the task.

इस परीक्षण में आपको 5 समकोण त्रिभुज और 5 चतुर्भुज आकार के प्लास्टिक के बने टुकड़े हैं। इन सभी 10 टुकड़ों की सहायता से आप एक वर्ग बनाने का प्रयत्न करें। ध्यान रहे कि बनाए हुए वर्ग के बीच कोई खाली स्थान ना हो।

Sr. No. क्र0स0	**Time Consumed in Completing the Square (in minutes)** वर्ग बनाने में लगने वाला समय (मिनटों में)
1.	Less than 10 Minute (10 मिनट से कम)
2.	11-20 Minute (11–20 मिनट)
3.	21-30 Minute (21–30 मिनट)
4.	31-40 Minute (31–40 मिनट)

TEST-6 (The Blocks Test of Creativity)
परीक्षण–6 (ब्लॉक परीक्षण)

This test consists of 19 identical cubes and 12 diagonally cut semi-cubes. Besides this, a wooden board covered with a white paper is also provided to be used as a base for assembling the blocks to make designs or various structures. The respondents have to produce as many interesting, meaningful and unusual designs as many as possible in ten minutes.

यह परीक्षा आपकी सृजनात्मक योग्यता मापने के लिए है। आपके सामने एक डिब्बे में एक समान 19 घन और 12 अर्द्ध घन हैं तथा एक लकड़ी का सफेद बोर्ड है। आप इन 31 ब्लॉक की सहायता से दस मिनट में जितनी चीजें सम्भव हों लकड़ी के बोर्ड पर रखकर बनाएँ। कृप्या अधिक से अधिक मौलिक, रोचक एवं अर्थपूर्ण चीजों को बनाने का प्रयत्न करें।

Sr. No. क्र0स0	**Draw the shape produced here:** बनाई गई आकृति को यहाँ पर चित्रित करें।	**Sr. No.** क्र0स0	**Draw the shape produced here:** बनाई गई आकृति को यहाँ पर चित्रित करें।
1.		6.	

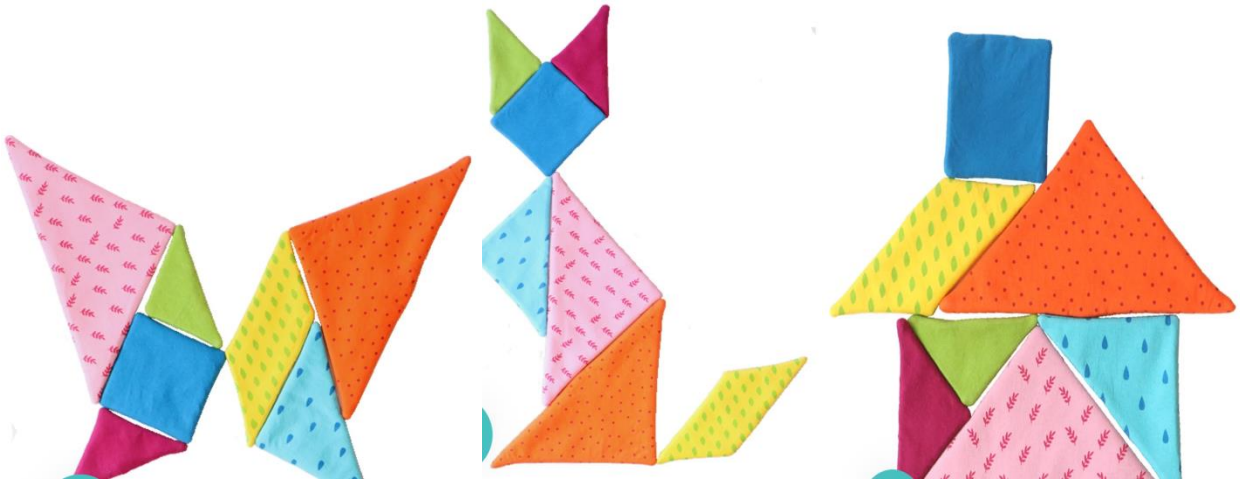
2.		7.	
3.		8.	
4.		9.	
5.		10.	

Sr. No. **क्र0स0**	**Number of Designs and Structure Produced** **डिजाईन का नम्बर और चित्रित संरचना**
1.	Less than 5 (5 से कम)
2.	5-7 (5–7)
3.	8-10 (8–10)
4.	10 and more (10 से ज्यादा)

ACCELERATION PROGRAM

Activity 1: Fabric blocks

Students were provided with the seven hand-made fabric shapes. Then, respondents individually were given 15 minutes to create different shapes out of these. Students created various shapes including butterflies, cat and home etc.. This activity is best to boost children' curiosity, imagination and sharp his/her problem-solving abilities in an innovative manner.



Activity 2: Mini Bowling Pins

Students were given 6 wooden bowling pins and 1 wooden ball. Then, the respondents were asked to stack them up and roll as many as pins they can roll down at every chance. Each student was provided total time of 10 minutes to perform the complete task. This activity enhances children overall block creativity and problem-solving.

Activity 3: Story Cubes

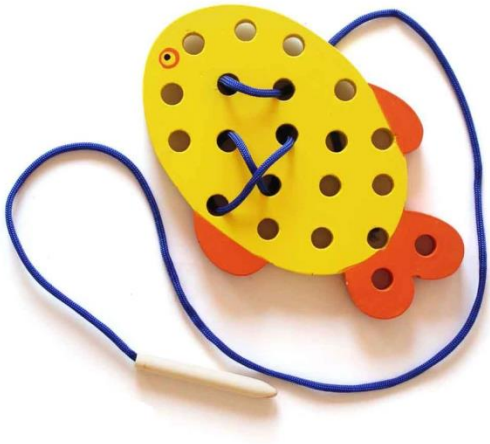
Students were given different pieces of cubes with different images. Respondents were asked to create their own stories with personal twist. Students came up with multiple stories. The activity was played as competitive teams. Each team was given 30 minutes to come up with their unique stories and to share them with the other classmates. This activity enhances verbal and non- verbal creativity, imaginative thinking, communication skills, self-expression, and problem solving and vocabulary improvement.

Activity 4: City out of blocks

Students were provided with a complete block set of a city which included roads, traffic lights, bridges, cars, trees and houses etc.. Then, the students were randomly divided into the group of 2-2 students and were asked to explore their imagination and create a city scene out of these blocks. Total time allotted for this activity was 30 minutes. This activity is perfect for imaginative play, free-thinking, creative thinking and self- expression.

Activity 5: Wood and lace

This was one of the simplest activities; the students picked blocks which had holes in them and a lace. Pushing the lace into a specific hole repeatedly helped creating attractive designs. Then each student was given 15 minutes to create as much as patterns he/she can create within the given time span. This activity was planned to enhance students' block creativity and problem solving.



Activity 6: Blocks and Pegging Pins

The activity included wooden blocks, thread and peg board. Each block piece had print on both sides with a little hole in the middle to peg on a peg board stand, or to lace with a thread. Students were asked to create random stories such as, bear in the jungle or the little girl in her garden. The students were given 50 minutes individually to create, complete and narrate the story in their own style. This activity is useful in overall creativity, imaginative thinking, pretend play and self-expression.

Activity 7: Clock Puzzle

Students were given 17 block pieces with numbers imprinted on them and an hour and minute hands. Students were randomly divided into groups of 5-5 students. Each group was given 45 minutes. During this time the students were asked to arrange clock puzzles according to various time such as 3:00 o'clock,

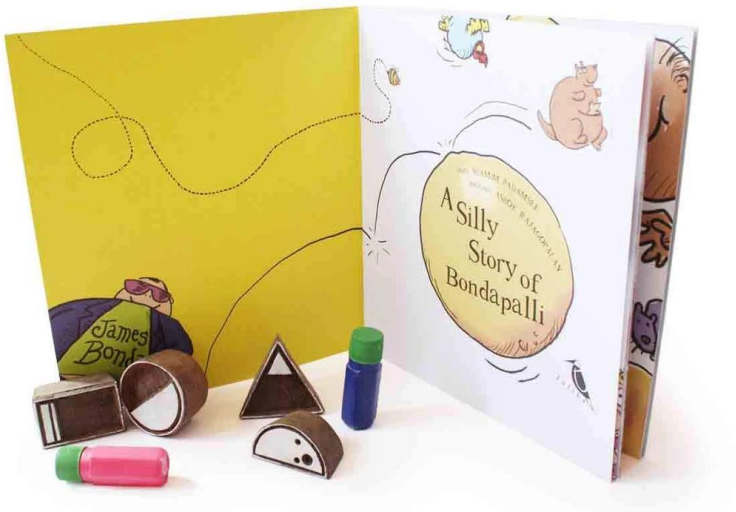
4: 15 o'clock etc. This activity was planned to sharpen students' block creativity, fast reaction time and team building.

Activity 8: Block Printing

The students were given various engraved blocks, paint and drawing sheets. Each student was asked to create their own story and draw it with the help of blocks. The time given for this activity was 45 minutes and the activity was conducted individually. This activity supports creativity, self-expression and imaginative play.

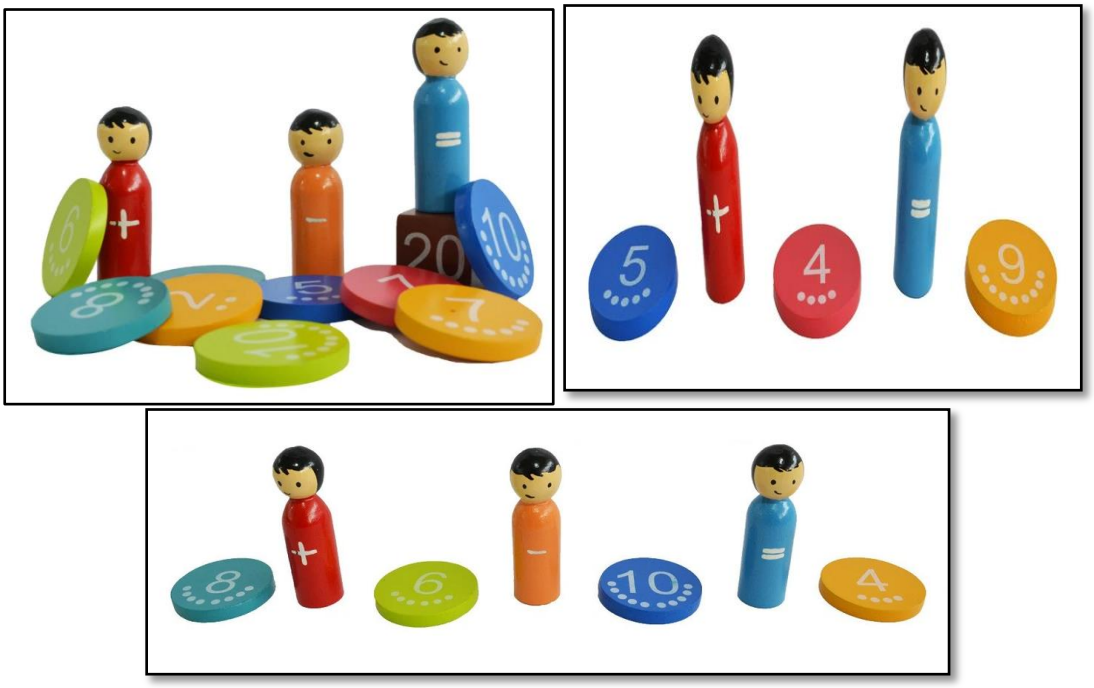
Activity 9: Shape Shifter Stamps and Story book

The students were provided with various stamps in the form of geometric shapes, paint and a story book. Then the students were asked to mark as many as different hidden geometric shapes they can find in the story book. The time allotted for this activity was 30 minutes and each student was given individual time. This activity promotes self-expression, creativity, critical thinking and skill building.



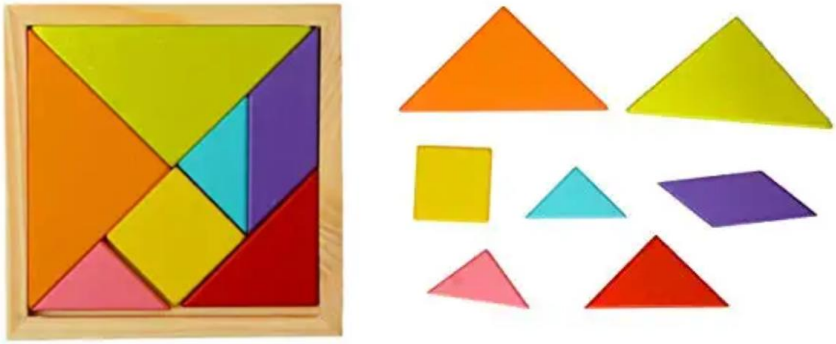
Activity 10: Number Friends

This activity included wooden dolls with various mathematical symbols and some wooden coins with different numbers 1 to 20. The students were asked to create various mathematical numbers with these dolls and coins. Such as, 45 can be written as 5×9; 36 can be written as 12×3 etc.. Each student was randomly asked to come and create various mathematical expressions suggested by the remaining classmates. This is a fun oriented mathematical activity which builds a strong base in math skills and enhances creativity.



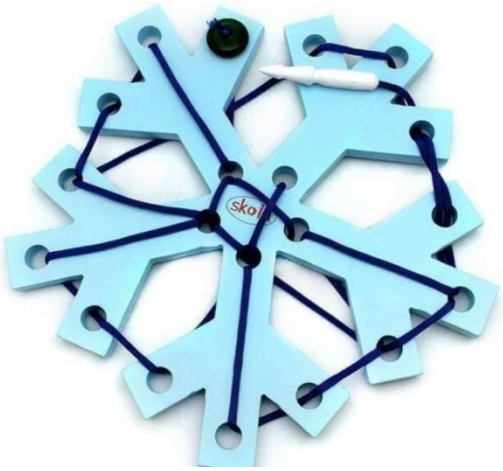
Activity 11: Wooden Puzzle (7 pieces)

This activity included 5 triangles of different shapes, one square, one parallelogram and one fixed size wooden plate. The students were individually asked to solve the puzzle in such as way that the square piece is exactly in the middle of the wooden plate and surrounded by various other puzzle pieces such that there are no gaps in between them. Each student was given 5 chances and total time of 30 minutes to solve the puzzle. This activity supports block creativity, problem solving and reasoning abilities.



Activity 12: Wooden Puzzle (14 pieces)

This activity included 14 pieces of puzzle in the shapes of triangles, squares and one wooden board. The students were individually asked to arrange the various pieces to form different shapes. Each student was given 4 chances and total time of 20 minutes to create various shapes on their own. This activity supports block creativity, problem solving and reasoning abilities.

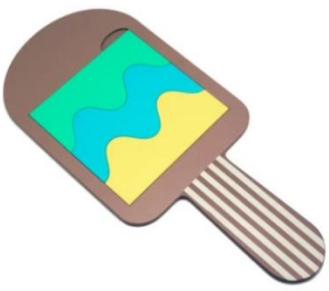


Activity 13: Threading snowflake

This activity included a snowflake shaped threading board and a thread. The students were asked to complete the snowflake by covering all the holes with the thread within 15 minutes. Each student was allowed to perform individually and allotted two chances. This activity supports block creativity, visual-spatial intelligence, problem solving and reasoning abilities.

Activity 14: Popsicle Patterns

This activity had 31 different shaped wooden pieces and one Popsicle shaped wooden frame, to create 25 different Popsicle patterns by arranging different block shapes. Each student was given 25 minutes to complete the task and create as many as many Popsicle patterns. Students loved to experiment with the pieces to new combinations and were excited to explore more and more shapes. This activity supports block creativity, self-expression, imagination, problem solving and reasoning abilities.

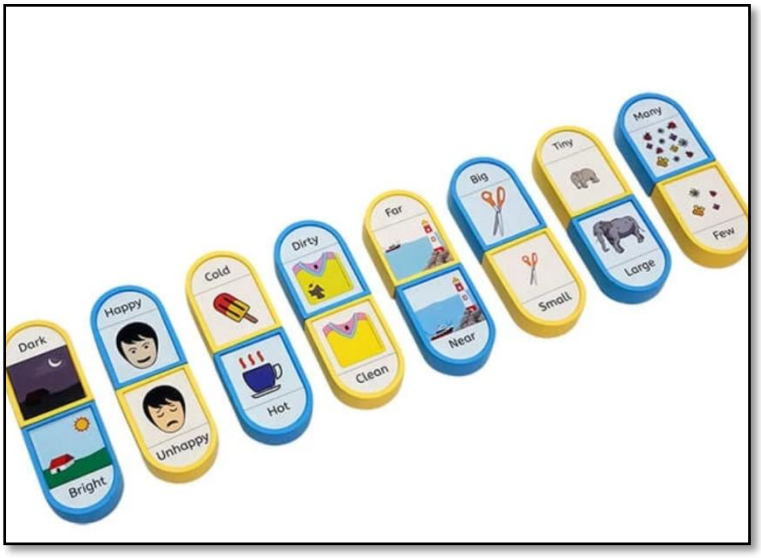


Activity 15: Alphabet Finger Puppets

Merging puppetry with the alphabet is a simple yet fascinating way to read, create words and learn vocabulary. This activity included 12 wooden finger puppets with vowels and consonants written on them. The game began experimenting by wearing different finger puppets to explore what words can be formed. Hence, the students were allowed to perform this group activity for 45 minutes. This activity supports puppetry, creativity, letter sounds and vocabulary formation.

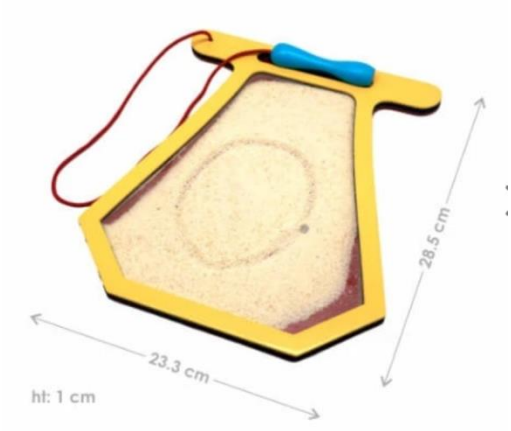
Activity 16: Word Pair Capsules

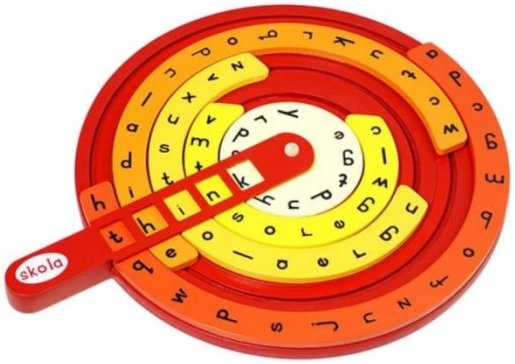
This activity included various yellow and blue capsule shaped wooden pieces which had antonyms and synonyms intertwined. When children pair up a yellow and blue capsule, they can form a pair of antonyms and by pairing the blue-blue and yellow-yellow, they can form synonyms. This makes this activity more challenging and stimulating for children. Hence, the students were allowed to interact through this activity for 45 minutes. This activity supports verbal creativity, letter sounds and vocabulary formation.



Activity 18: Magnetic Sand Art

This activity included small metal pieces mixed with sand inside a frame. The students were provided magnet tipped pen to move the sand grains around to create various patterns and shapes. Each student was given 15 minutes to create as much as shapes and patterns he/she can create. This activity supports overall creativity.





Activity 19: Word Wheel

The children were provided with a wooden word wheel with movable segments that can be rotated on it and different words can be formed. Children were asked to form as many as words they produce, pronounce and explain by this word wheel spinner. Hence, the students were allowed to interact through this group activity for 45 minutes. This activity supports verbal creativity, letter sounds, curiosity and vocabulary formation.

Activity 20: Seashell Craft

Firstly, the students were divided into 5 groups and each group consisted of 3 students each. Then, each group was given some seashells and glue. The students were asked to create as many as creative items they could form with these. The students came up with various ideas such as, koala, fish, photo-frame and pen stand etc.

Activity 21: Wall Decoration

Firstly the whole class was divided into two equal groups. Then, each group was given some balloons, colored paper and double-sided tape. They were given 45 minutes to decorate the classroom walls as per their imagination. This activity supports creative abilities and imaginative thinking.

Activity 22: Button Craft

Firstly, the students were divided into 4 groups and each group consisted of 2 students each. Then, each group was given some colorful buttons and glue. The students were asked to form as many as creative and decorative items they could form with these. The students came up with various ideas such as, button-bowl, cats, hot air balloon and alphabets etc.

Activity 23: Tree Stem Sticks Art

Firstly, the students were divided into small groups. Then, each group was given some wilted tree stem sticks, stones and glue. The students were asked to form as many as decorative items they could form with these. The students came up with various ideas such as, pot decoration and wall hangers etc.

Activity 24: Nature-Person-Interaction

The students were left unguided to explore their natural surroundings and as an initiative students were encouraged to plant a tree by themselves. This embraces their inner creative potential, imagination, curiosity regarding natural phenomena and builds a strong nature-person bond.

Activity 25: Painting (spray painting, string painting, vegetable painting, sand painting, straw painting, blot painting, coin tracing, shadow painting, finger painting, flower and leaf painting etc.)

The students were left freely with water colors, art sheets and brushes. They were asked to create whatever they like and whatever method they wanted to use. This activity supports children's self-expression, creativity and imagination.

Activity 26: Paper Mashie

Students were provided with old newspapers, tissues, glue, water paints and brushes. In this activity, students were given instructions regarding paper mashie technique such as, first tear up newspapers into small pieces, then with the help of glue stick them on the cardboard pieces in different patterns, cover the newspaper designs with tissue-glue-water paste and after coloring them sun-drying. The students created various shapes such as face masks, alphabets and natural scenes.

Activity 27: Socks-puppets

Students were provided with old colored socks, cardboard, thread, needle, googly eyes, and fabric glue and fiber cotton. In this activity, students were given demonstrations regarding socks-puppet making process. Such as, cut out the slit in the toe of a sock, cut a piece of cardboard for the puppet mouth, stitch these pieces together, fill with fiber cotton and glue googly eyes at the end. Stick hand in the socks with thumb in the bottom opening and fingers in puppet mouth opening. The students created various creatures using this technique. Further, students were encouraged to use these socks-puppets to narrate various stories or incidents with unique background sounds.

Activity 28: Complete the diagram

Students were made to sit in the classroom. The researcher drew a small 'V' shape on the black board. Then the researcher requested one of the students to come forward and draw a line connecting to V shape. Then the remaining students were requested to come forward one by one and to continue the drawing connecting to the extended 'V' shape on the board. Each student was given a maximum of one minute to draw the extension to the shape on the board. As each student came and drew an extension to the shapes on the board; a creative diagram emerged out by the entire group. Initially the students had no idea but then as the activity progressed they used to come up with ideas that were new and unusual. They were allowed to draw till they felt no more extensions could be done. Finally the students were asked to sit down and a discussion was held on how the diagram progressed and how some of them brought in unusual changes in the diagram which changed the course of the diagram. The students were appreciated and encouraged to come up with new, innovative and creative ideas. The activity was completed in sixty minutes.

Activity 29: Newspaper crafts

Students assembled in the designated class. Then they were requested to sit in rows. To carry out the activity more meaningfully, subgroups were created. Thus seven/eight groups were formed randomly (4-5 students in each group). Then each group was given a set of newspapers from which they were asked to make as many number and creative craft items as possible within the time limit (90 minutes). After completing the assigned task, each group displayed the items at the space provided in the center of the class room. One of the members of the group would describe the paper crafts they had made while the

other groups listened. The researcher evaluated the groups in terms of the number of items and on the basis of the novelty (those items that are unique and not made by other groups). They enthusiastically participated. Every group was appreciated and encouraged by the researcher for the efforts as well as for the creative items they had made. Special attention and instruction was given to everyone that throughout the activities that no one should make any critical comments on other groups or even to their own group members.

They were given time to discuss on the process of how they made the items. Each group was given time to think of how many more new items they could have added. This activity was given under the assumption that exposure to the creative craft items made by other groups would stimulate their creative thinking. Later they were asked to share their new ideas.

Activity 30: Newspaper crafts –dress making

Students assembled in the designated class. Then subgroups were created (using the methods mentioned in the previous section). Then each group was provided with of newspapers and paper pins. The students were asked to design a costume for the queen, prepare the items and then make doll in the group wear the attire within the time limit (80 minutes). So they had to think of a queen's attire and try making all the possible items like crown, ring, necklace, sword, belt etc. They were told in advance that they would be appreciated based on the number of items they add to the costume, the innovative ideas they bring in to the costume and the way they explain the attire to the other groups. The accessories and the way in which they explained the costume was appreciable. They enjoyed the task. Every group was asked to identify the

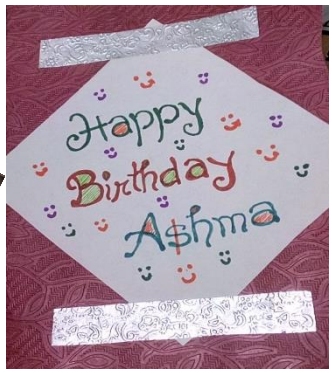
innovative ideas of the other groups and appreciate each other. The total time for this activity was eighty minutes which includes time for grouping and initial instruction (15 minutes), distribution of materials (5 minutes), implementing the activity (35 minutes) and the discussion (25minutes) which was followed after doing the activity.

Activity 31: Thread sticking

Seven subgroups were formed in the similar manner mentioned earlier with 4-5 students in each group. Each group was given a set of varied color threads, gum, scissors, pieces of chart papers, on which they have to stick the thread and make patterns or make anything which is different and unique within the time limit (75 minutes) for instance they could stick the threads to make scenery or any objects they see around. As soon as the activity was given subsequently most of the students started to think and discuss their ideas among themselves before they implemented. This discussion (pooling the ideas) before doing the activity was unique and wasn't seen while they were doing the previous activities. At the end of 75 minutes all their creative work were displayed and the groups were asked to find the uniqueness of each group and appreciate. The total time for this activity was seventy five minutes which includes time for creating subgroups and initial instruction, distribution of materials, implementing the activity and the discussion which was followed after doing the activity.

Activity 32: Greeting card

For this activity subgroups were formed using one of the methods mentioned earlier. Each group was given a set of crayons, scissors and papers. Then each student within the subgroup was asked to make a greeting card with the material provided within the time limit (60 minutes).There was a lot of enthusiasm. At the end of the activity they came up with different designs cut and made as greeting cards with pictures and wordings written creatively. After which the groups exhibited their creative greeting cards and the other groups spontaneously appreciated them for their creativity.



Activity 33: Dramatic play (word-enacting)

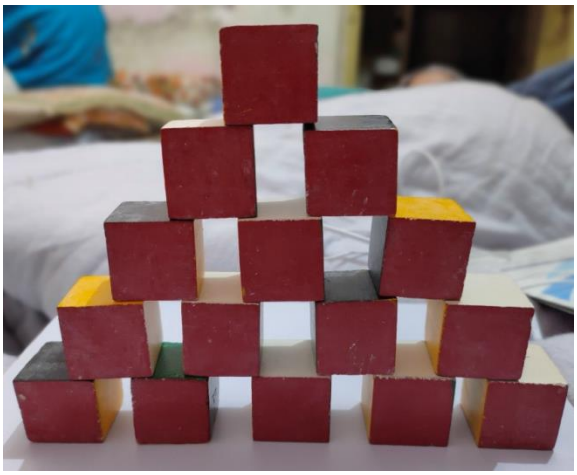
For this activity subgroups were made using one of the methods mentioned earlier. Then from each group, a member was requested to come forward pick up a lot and enact what is written in the piece of paper without saying anything and the remaining members of the same group have to guess what is being acted out, within the given time limit (2 minutes). Students were encouraged to use creative symbols and expressions so as to make the group members guess easily. The activity continued till everyone in the group had a chance to enact. The total time for this activity was eighty minutes. However at the end of the activity, those children who used creative symbols to enact were identified and socially reinforced by other groups.

Activity 34: Model Making

As the students assembled in the classroom allotted, subgroups were made randomly. Each group was given some kneaded soil. Then they were asked to make a model of their choice by incorporating as many details as possible so as to make the model more original, creative and unusual. They were encouraged to think of uncommon models. The time limit given was 120 minutes. Initially they tried with some of the common models but then as time went on they started to elaborate on their models by adding more details so as to make it look like the real object. At the end they were asked to place their models on a table which was in the classroom. Then each group had to come forward and present their model to the members of other groups and the other groups were encouraged to seek clarifications if they had any doubt on the model and also to appreciate the uniqueness in each of the model.

Activity 35: Tower building

As the students assembled in the classroom allotted, sub groups were made using one of the methods mentioned earlier. Each group was given a set of raw wooden pieces and newspapers. Then they were asked to make a tall tower (as tall as they could think of) that would stand for 15 minutes (without falling) with the wooden pieces and newspapers given. The time limit for the activity was 30 minutes. All the groups were actively engaged in discussion and then they started to try out the possibilities. At the end of 30 minutes they were asked to stand away from the tower. All the groups along with the researcher waited for 15 minutes. Some towers had already fallen down. Finally the groups shared their experiences.




Activity 36: Puzzles to Building

The students were asked to combine various puzzle pieces to form a complete multi-storey building. Each student was even 45 minutes to complete the given task.

Activity 37: Henna on Hands

The students were divided in the groups and each group had two members. The students were provided with henna cones and were asked to draw beautiful patterns on the one of the group members' hands. The students were asked to draw freely whatever they wish within one hour.


Activity 38: Glass Bottle/ Pot Decoration

The students were firstly divided into sub groups. Each group was given a set of colors, empty glass bottles, earthen pots, paint brushes etc. and they were asked to paint freely. This activity enhances students' imagination, creativity and ability of self-expression.

Activity 39: Free play

Sub groups were formed using one of the methods mentioned earlier. Each group was given a set of color pencils, threads, papers, cloth pieces, paper cups, silver paper plates, and straws. They were encouraged to use all the materials that were given to them to come up with a model/toy within the time limit. The time limit given was 55 minutes. The students came up with a variety of items and products like pen holders, photo frames, wall hangings, paintings, etc. At the end of 55 minutes their exhibits were displayed and the group members had to explain the products they had made. Then the researcher appreciated and mentioned the uniqueness of each of the groups.

Activity 40: Paper boats

Overview:

This is a quick fun activity that is often used to prompt participants to think creatively and come up with out of the box ideas to accomplish this simple fun task in a competitive exciting simple activity.

Time**:** 20 Minutes

Tools/Items required: Colored sheets of A4 paper, Masking tape

Directions and Set up:

Split participants into equal groups of 4 or 5 per group, give each group 10 sheets of A4 papers (Each group gets a different color of A4 paper sheets), Use the masking tape to create a start line where all groups will need to stand behind and a finish line (Distance between the start and finish lines is 1.5 to 2

Meters)

Rules:

- The winning team will get the most paper airplanes across the taped line.
- Each team has a different color paper
- You will have 3 minutes to strategize without your paper
- You will have 5 minutes to build your airplanes and get them across the taped line

What's the point from this activity? :

The main point of this activity is to focus on the fact that we tend to stick too much to the rules even though there were too few rules in this activity and how making too many assumptions greatly hinders our ability to think creatively and come up with new, out of the box solutions to solve problems

Discussion & Debrief:

When running this activity, most groups do not use the 3 minutes to build a good strategy and brainstorm possible ways to make the largest number of aero planes out of their 10 sheets of paper and make sure they can fly the short distance from the start to the finish line , instead they rush to get to the construction phase and most of the groups spend the 5 minutes they get for construction to create as many paper aero planes (aero planes with wings and tail) and the result is usually that most of the aero plains do not make it to the finish line because the designs are usually not very aerodynamic.

Activity 41: Cut the cake

Overview:

The researcher brings in a cake to celebrate the end of a successful session. Participants cannot eat it until they have cut it. They cannot make more than three cuts and they must divide the cake into eight pieces.

Time: **20 Minutes**

Directions and Set up:

Purchase a cake and bring it to the training room at an appropriate time.

After 5 minutes, if the solution has not been found, either allow each participant a second chance, or demonstrate the answer (see answer below)

Tools/Items required:

One 8 - 10 inch round cake and a cake knife

Rules:

The participants cannot make more than three cuts and they must divide the cake into eight pieces.
What's the point? :

This activity is meant as a fun and also challenging way to end a team building , creativity or a problem solving class and also shows the value of collaboration of all class participants to try and come up with a solution together and get a piece of the cake

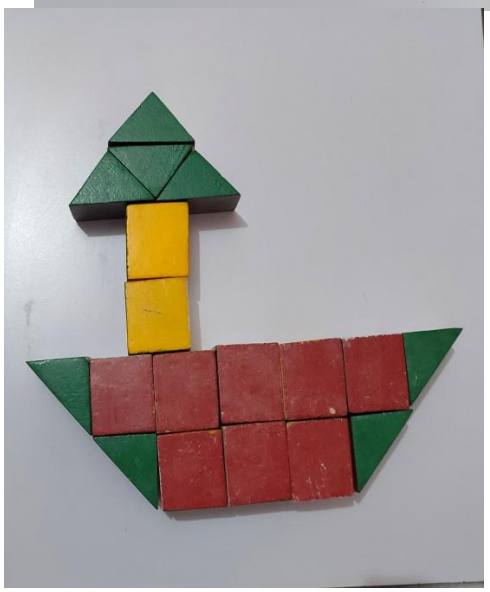
Solution:

The answer is to cut the cake twice on top (once in either direction) and once horizontally through the middle.

Activity 42: Shapes out of Blocks

This activity was planned according to single student participation at a time. Each student was given various geometric blocks in the shapes of squares and triangles. Each block piece consisted of different colors on each side. The students were given 25 minutes each to create as many as possible shapes he/she can create. The students came up with the ideas of tree, robot, ice cream etc.






Activity 43: Ping pong balls out of water bottles

Overview:

A challenging activity that requires some creative thinking for the team to solve the predicament of trying to get ping pong balls out of water bottles using chopsticks

Time**: 20 Minutes**

Tools/Items required:
Empty water dispenser bottles (a bottle for each team) , Ping pong balls, chopsticks, tape , Stop watch
Directions and Set up :
Split the class into teams of 4 or 5 per team , Issue to each team a water bottle , two ping pong balls and

several chopsticks and tape.

Instruct each group to drop the two ping pong balls into the empty water bottles.

Rules:

The teams cannot turn the bottles over to take out the balls.

The teams can use the chopsticks or tape chopsticks together to get the balls out.

The team that manages to take both ping pong balls out first is the wining team.

What's the point from this activity?

This activity promotes team creative thinking

Solution:

Filling the bottles with water, the ping pong balls will easily come out of the bottles without having to turn the bottles over.

Activity 44: Find the way

This is a high energy active exercise to show participants that getting from there to there is not usually as easy as it appears. Innovative thinking and creativity are essential to high performance. Coming up with new ideas is at the crux of innovation, but ensuring that these new ideas are both heard and implemented or at least given a chance usually is a challenge for groups and organizations. Top leaders are constantly seeking ways to convince those they work with that their impulses towards innovation will be honored and supported. This exercise will help to highlight this key point.

Items needed:

- Several sturdy pieces of cardboard in two sizes a small size that can only fit one person to stand on it and a large size that's big enough for two persons to stand on it in close proximity

- Masking tape

Directions:

1- Using the masking tape on the floor create and mark off a path that should be wide enough for 3 people to walk next to each other and about 30 – 40 feet in length (It's best to have the two paths next to each other to make the race more competitive)

2- Split the group into two teams of 10 team members each and tell them that this will be a race between the two teams but with some specific strict rules that will follow

3- Gather the two groups to one end of the stretch and designate the start.

4- Explain to each group that their task as a team that all team members reach the end safely and as fast as possible, the first team that gets there will be the winning team.

5- Explain to the teams that the problem is that their path is contaminated with a highly toxic material and they cannot directly step on the floor. The only way to move through their race path is to use the Cardboard steps along the path and walk on them and this is the only way for each team to traverse this dangerous terrain.

6- Warn the teams that there is one catch. The cardboard steps need to be in contact with a human body at all times. If the steps are left for more than 2 or 3 seconds on the floor, they will instantly disappear (You will be taking them away) so they have to be careful that any step left unattended will be lost and cannot be used again.

7- Hand each team of 10 participants a 3 small and 3 big cardboard steps.

8- Start off the activity and pay attention to the cardboard steps, instantly remove any that were left unattended for a few seconds.

Discussion questions:

- What was the team strategy for tackling the challenge and how did they arrive at this strategy?

- Which had some good ideas for proceeding? Which ideas where adopted and which were dumped?

- Who played which roles during the execution, what did they do? Was there someone who took the lead?

- Did you have to revise your strategy when you lost some of your cardboard steps?

- If you would do this activity again, what would you do differently?

- When steps were lost, how can we link this to our workplace?

Activity 45: Manage resources

This is a quick activity to promote thinking out of the box and utilizing current resources to the max.

Directions:

- Issue 6 toothpicks for each participant

- Challenge them to create 4 triangles with the toothpicks

- You will probably hear a complaint that they need more toothpicks (resources)

- Stress that these are the only resources you can give and they have to find ways to use what they have

- The answer is simply to make a 3D pyramid with the six toothpicks, and then you will have three standing triangles and one base triangle.

Debrief further on the importance of problem solving skills, creativity and innovation to work with the sometimes limited resources we have.

Activity 46: 25 Objects Game

The objective is to demonstrate that creativity is more likely to flourish under unstructured than under structured supervision. (But don't tell the group this in introducing the game.) Before introducing the game, assemble 25 objects and place them in a 8½ "11" envelope, one envelope per team. Each envelope should contain an identical 25 objects. The objects should cover a wide variety of materials and may include the following:

Commemorative postage stamp, Plastic spoon, Highway map, Ketchup (in small plastic bag), Sugar packet, Coin, Stone, Small pine cone, Aspirin, Candle, Piece of plastic, Key, Piece of wire, Screw or nail, Hair pin, Pencil, Telephone memo slip, Needles or pins, Button, Piece of cloth, Matches, Beer can opener and Coping saw blade

To play the game:

1. Divide the group into teams of five to nine persons.

2. Appoint a leader for each group. The leaders are to function differently—some will be relaxed, encouraging, unstructured leaders (Supervisors A); the others will be more structured (Supervisors B). Each leader receives only his/her instructions in writing and does not see the other instructions.

The instructions to be given to the unstructured leader, Supervisor A, follow:

Instructions for Supervisor A (print as an instruction sheet)

Your group has the task of grouping (classifying) a number of miscellaneous objects. Your group's creativity will be measured by its ability to come up with as many groupings as it can in the ten minutes available. Your job is to unleash the creativity that resides in the group. Since the task is clear-cut, just start them off with an encouraging sentence or two. Then give them their instruction sheets, dump the 25 objects on the table, and begin to work for the ten minutes. This game is designed to ascertain the creative power of your group. Your task is to Come up with as many different groupings (categories or classifications) as you can of the 25 objects that you have been given; for example, your ball point pen can be put into such groupings as plastic, metal, etc.

List the groupings on the newsprint sheet.

Perform the task in ten minutes.

Activity 47: Picture Construction Task:

This test of creativity is intended to measure the individual's ability to deal with figural content in a creative manner. Unlimited opportunity is given to think about the picture construction. It provides opportunity to use his imagination with different types of figural tasks and come out with novel idea. Originality and elaboration can be measured by this activity.

Activity 48: Paper Origami and Paper Quelling

This is a quick and easy activity that shows how the same instructions are interpreted differently by different people and highlights the importance of clear communication.

Directions:

Give one sheet of letter size/A4 paper to each student. Tell the group that you will start giving them all instructions on how to fold the paper to create an origami shape. Start giving instructions to fold and rip their paper several times then ask them to unfold their paper and compare how it looks like.

Activity 49: The guessing game

This simple activity is a fun way to introduce and show the difference between closed and open questions

Directions:

Split your class into two equal groups/teams. One person from each team will leave the room for a minute and think of a business object (any common object that can be found in any office like a stapler, pencil, pen, etc.). When each person returns to his team, it's the team's task to ask him/her closed ended questions only to try and find out what the object is. If needed, explain that closed ended questions are those that can be answered by yes or no. Once any team finds the object, this means that they won this round. And they can go for another round.

Activity 50: The emotion game

This is a fun competitive game that's concerned with getting participants to become more aware of their feelings or emotions. Participants are split into teams and act out an emotion, such as disgust, affection, fear, anxiety, embarrassment, anger, determination etc. and the total group will try to guess what the emotion is

1. Divide the group into two teams.
2. Place on a table (or put in a box) a packet of cards, each of which has a particular emotion written on it.
3. Have a participant from Group A take the top card from the table and act out (pantomime) the emotion for his/her group. This is to be done in a fixed time limit (such as a minute or two).
4. If the emotion is guessed correctly by Group A, they receive ten points.
5. Now have a participant from Group B act out an emotion; award points as appropriate.
6. Rotate the acting opportunities between the two groups.
7. After 20–30 minutes, call time and announce the winning team based on its point total.

Activity 51: Power of body language

Overview:

Body language speaks louder than any words you can ever utter. Whether you're telling people that you love them, you're angry with them, or don't care less about them, your body movements reveal your thoughts, moods, and attitudes. Both consciously and sub-consciously your body tells observers what's really going on with you.

Time: **10 minutes**

Instructions and set up:

1. Explain to the group that you are going to give them a series of instructions, which you would like them to copy as fast as they can

2. State the following actions as YOU do them:

Put your hand to your nose. Clap your hands. Stand up. Touch your shoulder. Sit down. Stamp your foot. Cross your arms. Put your hand to your mouth – BUT WHILE SAYING THIS PUT YOUR HAND TO YOUR NOSE

3. Observe the number of group members who copy what you did rather than what you said.

What's the point from this activity?

Facilitate discussion on how body language can reinforce verbal communication, however it can also be stronger than verbal communication – it is important that we are aware of our body language in order to ensure we are projecting the right message.

Activity 52: Follow the instructions

This is a quick fun activity with a little trick to see how many of the participants will actively listen and follow the one single instruction you will give them "Read all instructions first" and how many will rush and start doing each instruction one by one.

Split participants into 3 or 4 teams and issue a list of the instructions below to each person. Give the teams one single instruction to read all instructions first and tell them that the first person in any of the teams to finish first will be declared the winner.

INSTRUCTIONS:

1. Write all of your teams initials at the top right hand corner of this sheet.

2. Write your first name on your sheet of paper.

3. Write the total of 3 + 16 + 32 + 64 here: _____

4. Underline instruction 1 above.

5. Check the time by your watch with that of one of your neighbor's.

6. Write down the difference in time between the two watches at the foot of this page.

7. Draw three circles in the left hand margin.

8. Put a tick in each of the circles mentioned in 6.

9. Sign your signature at the foot of the page.

10. On the back of the page, divide 50 by 12.5.

11. When you get to this point in the test, stand up, then sit down and continue with the next item.

12. If you have carefully followed all these instructions, call out 'I have'.

13. On the reverse of this page, draw quickly what you think an upright bicycle looks like from overhead.

14. Check your answer to Item 9, multiply it by 5 and write the result in the left hand margin opposite this item.

15. Write the 5th, 10th, 9th and 20th letters of the alphabet here: _____

16. Punch three holes with your pen here: o o o

17. If you think you are the first person to get this far, call out 'I'm in the lead'.

18. Underline all the even digits on the left hand side of the page.

19. Draw triangles round the holes you punched in Item 15.

20. Now you've finished reading all the instructions, obey only 1, 2, 20 & 21.

21. Stand up and say, "We're the greatest team in the World!"

Activity 53: The name game

Overview:

Instruct each participant to think of a famous person and write it secretly on a paper. Attach the post it to the head of their partner. Issue post-it notes. Split the group into pairs.

In **round 1** – take it in turns to ask closed (yes/no) questions. You may continue to ask questions for as long as you receive a yes response. When the answer is no, swap over. E.g. typical questions: Am I alive? Am I male/female? Am I a sports person etc?

After 10 minutes, stop the activity. Some people will have guessed others will still be playing.

For those that have guessed asked them to come up with another famous person and repeat the exercise (those still guessing can continue).

In **round 2 -** they must take it in turns to ask one Open or TED (Tell, Explain, Describe) question (with the exception of 'what is my name' or similar!). If they mistakenly ask a closed question they have lost their turn. After 3 or 4 minutes close the activity and debrief.

Activity 54: The square talk

This is a challenging activity where participants are all blindfolded and receive instructions from the trainer that should be strictly followed; the exercise enables participants to recognize the importance of communicating effectively, and understand the important aspects of communication.

Tools/Items required: One blindfold per participant, one long rope per sub group

Time**: 25 minutes**

Directions and setup:

• Divide the group into sub-groups of ideally 5. If this is not possible, some delegates can be given 2 pieces of information, or some the same information, ensuring all information is communicated (The minimum number of participants required for the activity is 3). Clear the room as far as is practicable

• Blindfold each delegate and verbally communicate the objective of the activity. Disorientate each delegate individually, hand them the rope and ask them to make a square from a rope. (Stand to form a square shape). Be aware of time and inform delegates when they have 5 minutes of the 25 minutes left

This tough challenging activity reinforces the importance of being able to communicate effectively with other team members while being blindfolded. It requires strong teamwork and planning as well as efficient use of all possible communication skills the team has to succeed in forming a square while blindfolded.

Activity 55: Paper shapes

Directions:

1- Hand-out one A4 size paper to each participant

2- Tell participants that we will play a quick game to prove a couple of facts about communication and that you will be giving them a series of instructions about what to do with their paper and that you will be doing the same instructions with yours simultaneously.

3- Ask everyone to hold their paper and close their eyes

4- Give the following instructions, pausing after each instructions to give everyone a chance to catch up

5- “Fold your sheet of paper in half”

6- “Tear off the upper left hand corner”

7- “Fold it in half once more and tear off the upper right hand corner of the sheet”

8- “Fold it in half again and tear off the lower left hand corner of the sheet of paper”

9- Ask participants to now open their eyes and inspect what they came up with.

Discussion and debrief point:

- Hold your shape up for everyone to see and make the point how different their shapes are from your shape even though you gave very simple and clear instructions

- Observe how everyone’s shape is different, point out to the variety of the shapes, even though you gave the same instructions to everyone.

- Ask the group how come none of the paper’s resemble yours?

- Point out the importance of two way communication in the workplace which is highlighted by this simple exercise since it was a one way communication and they didn’t ask any questions.

Activity 56: The memory game

Tell participants that you will read them a list of words to test their memory. Participants will need to listen carefully and cannot write any of the words you will say down. Later you will test and see how many words they still remember. Read each of the following words slowly and pause briefly between each word. Note that one of the words (nigh) is repeated three times. For example: **dream**, **sleep**, **night**, **mattress**, **snooze**, **sheet**, **nod**, **tired**, **night**, **artichoke**, **insomnia**, **blanket**, **night**, **alarm**, **nap**, **snore** and **pillow.**

Once you finish reading the list, try to distract them by talking about anything else for about one minute. Then ask each participant to take out a piece of paper and write down as many words as they can remember.

Debrief by exploring the three basic principles of memory as follows:

Primacy memory– asks participants to raise their hands if they remembered the first and last words (dream and pillow). Explain that people easily remember the first and last things they hear in a series. Link back to the importance of having a high energy start and a final recap and review of your presentation.

Repetition – Ask those who remember the word (night) to raise their hands. Most participants must have remembered and wrote this word because you repeated it three times. Explain that people remember things more if they are repeated and how important it is to recap and review the main key points of your presentation more than once to ensure your audience can remember them.

False-memory – Ask participants to raise their hands if they remember the word (bed). Reveal that this word was not in the list but still some of them did write it down and raise their hands. Explain that our brain automatically closes gaps in what it sees and hears or reads, and sometimes assumes things that never took place happened. Most participants would have written the word (bed) because it simply fits and belongs to the list logically even though you never read it.

Activity 57: Find the way

This is a high energy active exercise to show participants that getting from there to there is not usually as easy as it appears. Innovative thinking and creativity are essential to high performance. Coming up with new ideas is at the crux of innovation.

Items needed:

- Several sturdy pieces of cardboard in two sizes a small size that can only fit one person to stand on it and a large size that’s big enough for two persons to stand on it in close proximity

- Masking tape

Directions:

1- Using the masking tape on the floor create and mark off a path that should be wide enough for 3 people to walk next to each other and about 30 – 40 feet in length (It's best to have the two paths next to each other to make the race more competitive)

2- Split the group into two teams of 10 team members each and tell them that this will be a race between the two teams but with some specific strict rules that will follow

3- Gather the two groups to one end of the stretch and designate the start.

4- Explain to each group that their task as a team that all team members reach the end safely and as fast as possible, the first team that gets there will be the winning team.

5- Explain to the teams that the problem is that their path is contaminated with a highly toxic material and they cannot directly step on the floor. The only way to move through their race path is to use the Cardboard steps along the path and walk on them and this is the only way for each team to traverse this dangerous terrain.

6- Warn the teams that there is one catch. The cardboard steps need to be in contact with a human body at all times. If the steps are left for more than 2 or 3 seconds on the floor, they will instantly disappear (You will be taking them away) so they have to be careful that any step left unattended will be lost and cannot be used again.

7- Hand each team of 10 participants a 3 small and 3 big cardboard steps.

8- Start off the activity and pay attention to the cardboard steps, instantly remove any that were left unattended for a few seconds.

Activity 58: Manage resources

This is a quick activity to promote thinking out of the box and utilizing current resources to the max.

Directions:

- Issue 6 toothpicks for each participant

- Challenge them to create 4 triangles with the toothpicks

- You will probably hear a complaint that they need more toothpicks (resources)

- Stress that these are the only resources you can give and they have to find ways to use what they have

- The answer is simply to make a 3D pyramid with the six toothpicks, then you will have three standing triangles and one base triangle.

Debrief further on the importance of problem solving skills, creativity and innovation to work with the sometimes limited resources we have.

Activity 59: Complete the diagram

Each sub group was given a paper with a circle drawn in the center of the paper and they were asked to think and draw anything that comes to their mind connecting to the circle on the chart within 30 minutes. Each student in the group had to think of something to connect to the circle so that each group makes a creative diagram. Care was taken to see that every member within each subgroup contributed to the diagram. At the end of 30 minutes the papers from all the groups were displayed so that every group was exposed to more ideas. After this again, 5 minutes was given for each group to incorporate innovative ideas to their picture. Finally there was a discussion on the activity and the students shared their experiences.

Activity 60: Uses of objects

Students were given details about the nature of the activity 'uses of'. They were given an instance – uses of paper. They were asked to describe the uses without thinking of the right and wrong. They were encouraged to come up with novel uses as opposed to the conventional uses. They started coming up with more ideas like to make ball and throw, to write, to make crafts etc. Once they understood the nature of the activity; then each group was asked to write down as many uses of a 'pillow' and uses of a 'scissors' as possible within the time limit (30 minutes). The uses could be productive or unproductive or unusual as well as very unique. After that, one member from each sub group had to present all the uses they had come up with. There was no judgment of right or wrong. The groups were again encouraged to think of more uses and each group was appreciated for their efforts.

Activity 61: Situational uses

As the students assembled in the classroom, subgroups were created by the researcher. Then each group was asked to write down as many uses of 'coming to school' as possible within the time limit (30 minutes). The uses could be productive, unproductive or unusual as well as very unique. After completing the activity, each group had to present all the uses they had come up with. The students enthusiastically participated. The groups were again encouraged to think of more uses and each group was appreciated for their efforts.

Activity 62: Consequences

Before starting with the activity the students were given the details about the nature of the activity. They were asked to narrate the consequence 'if there was no rain'. They were encouraged to think of all possible consequences, both positively and negatively. They started coming up with possible unique consequences. Once they understood the nature of the activity, then each group was asked to write down as many possible consequences for the question –what would happen if there is no sun from tomorrow? They are given 30 minutes to think and write the consequences - both positively and negatively. They

were encouraged to think creatively. After completing the activity one member from each sub group had to present all the consequences (positive and negative). The groups were again encouraged to think of more consequences and to share it with other groups.

Activity 63: Consequences of having a magical wand.

For this activity, each sub group was asked to think of as many possible consequences for the question – 'What would you do if you were given a magic wand in hand? They were given 30 minutes to think and write the consequences –both positively and negatively. They were encouraged to think creatively. After completing the activity, one member from each subgroup presented all the positive and negative consequences. The groups are again encouraged to think of more consequences and to share it with other groups.

Activity 64: Product improvement

Students were given details about the nature of the activity. They were asked to describe the possible improvements they could think of in an ordinary pencil they have- they were given some ideas initially – for example like having a pen and an eraser along with the pencil or may be having an automatically sharpening system within it. They were encouraged to think of all possible improvements /modifications. They started coming up with possible unique improvements. Once they understood the nature of the activity, each group was asked to write down as many possible improvements for 'an umbrella' to make it more useful for the common man. They were given 30 minutes to think and discuss their ideas. At the end of 30 minutes, one member from each sub group presented all the innovative improvements. Finally after listening to all the groups, each group was given a second chance to share their ideas. The students were appreciated for the creative improvements, they had come up with.

Activity 65: Situation improvement

Once the students assembled in the classroom, subgroups were created and each group was asked to think of all possible ways of improving their school to make it more enjoyable for students and teachers as well as to function more effectively. They were given 30 minutes to come up with all possible improvements. At the end of 30 minutes, one member from each sub group was asked to present all the innovative improvements, they had come up with. Students were instructed not to pass any critical comments about the ideas being right or wrong. The groups were again encouraged to think more possible improvements and to share it with the rest of the groups.

Activity 66: Similarities between objects

Students were given details about the nature of the activity. They were asked to describe 'how banana and orange were similar?' Initially the activity appeared difficult and it took time for them to think of similarities. The students found it easy to tell the differences than similarities. Then the researcher gave some examples – like both are fruits, both have to be peeled, both are edible, both have seeds etc. The examples helped them to understand how two objects can be similar and then they were able to tell the similarities. Once they understood the nature of the activity, each group was asked to write down as many similarities between – (a) chair and table (b) ball and bat. They were encouraged to discuss within the group of all possible similarities. They were given 30 minutes to think and write down the similarities.

After completing the activity, one member from each sub group presented the similarities they had come up with. Attention was given to see that the students pass no critical comments on the ideas being right or wrong. The groups were again encouraged to think more possible similarities and share it with other groups.

Activity 67: Similarities between Places

Once the subgroups were formed, each group was asked to think of all possible similarities between 'a market and a bus station'. They were given 30 minutes to think and discuss all possible similarities. After completing the activity, one member from each sub group presented the similarities they had written down. Attention was given to see that the students pass no critical comments on the ideas being right or wrong. The groups were again encouraged to think more possible similarities and to share it with other groups.

Activity 68: Qualities

Students were given details about the nature of the activity. They were asked to describe all the qualities expected from a good friend. They were given some ideas initially -like they should love, forgive, help each other in studies etc. As soon as they were given the chance, they started describing all possible qualities they could think of. Once they understood the nature of the activity, each group was asked to write down as many qualities that are required for a student to be a good student. They were given 30 minutes to complete the activity. At the end of 30 minutes, one member from each sub group presented the qualities they had come up with. Attention was given to see that the students pass no critical comments on the ideas being right or wrong. However the students came up with lots of qualities which would help them in introspection of their own student life. Finally the researcher appreciated them for coming up with lots of qualities.

Activity 69: Storyline

Building a story plot-market

Fragments provided: market- vegetables, fruits, people, buyer, seller, bargaining, issues.

Building a story plot –school

Fragments provided: school situation -Teacher, student, learning, education.

Building a story plot-exam

Fragments provided – exam-Teacher, student, Question paper, answer paper, parents, and marks.

Building a story plot-rainy night

Each group was given the following fragments as the initial part of the story from which they had to develop the story, with a title and a moral message.

Fragments provided: Beginning of a story-It was about ten thirty pm, the Electricity went off and it started to rain. I heard a knock on the door.

Building a story plot

The researcher narrated the old folk story of the thirsty crow. By mid-way of the story, the students were enthusiastic to continue and complete of the story. The researcher allowed them to narrate the familiar story. Once the narration was over the researcher asked them to develop a different climax for the story from, the middle of the story.

Fragments provided: The story of thirsty crow.

Building a story plot-zoo

The researcher had an informal discussion with the students on animals, forest, zoo, pets and on their awareness on all these.

Fragments provided: zoo, zookeeper, animals, escape, and forest.

Building a story plot-family

Fragments provided: Family-parents-children-obedience-respect

Building a story plot-Satellites

The students were asked in the previous class to bring their science text books. They were also asked to have a thorough reading on the chapter on satellites.

Then the researcher asked them to develop a story based on the words and themes they have read in that chapter and to enact it.

Fragments provided: satellites, rockets, moon, earth, scientists, and meteorites.

Building story plot-revision of story

The researcher narrated the old folk story of the hare and the tortoise. By midway of the story, the students were enthusiastic to narrate the rest of the story. The researcher allowed them to narrate the familiar story. Once the narration was over the researcher asked them to develop a different climax for the story from, the mid part of the story.

Fragments provided: The story of hare and tortoise.

Building a story plot-cleanliness

Fragments provided- travel, eating, dirty, friends, clean.

ABSTRACT

1.	Title of thesis	:	**Acceleration of creativity among academically bright rural adolescents**
2.	Full name of degree holder	:	**Sumit Sheoran**
3.	Admission No.	:	**2017HS8D**
4.	Title of degree	:	**Doctor of Philosophy**
5.	Name and address of Major Advisor	:	Dr. (Mrs.) Bimla Dhanda , Dean & Professor, COHS CCS HAU, Hisar- 125004
6.	Degree awarding University/ Institute	:	CCS Haryana Agricultural University, Hisar-125004
7.	Year of award of degree	:	2021
8.	Major subject	:	Human Development and Family Studies
9.	Total No. of pages in thesis	:	93 + vi + 55
10.	No. of words in the abstract	:	280

Key words: Creativity, young adolescents, Haryana, acceleration programme, home and school environment

The present study was conducted with the aim of assessing level of creativity among academically bright rural young adolescents, to implement and assess the impact of acceleration program, additionally, to delineate the influence of home and school environment on creativity. For this, 300 respondents in the age group of 12-14 years from rural areas of Hisar district of Haryana state were selected. Creativity of the adolescents was assessed with Passi Test of Creativity (PTC), by B.K. Passi, 2006. The results elucidated above average level in unusual uses flexibility while average levels were observed in seeing problem, unusual uses fluency, blocks fluency, blocks creativity, blocks flexibility, consequences fluency, persistency and total creativity. Whereas, below average levels were depicted in consequences originality, consequences creativity, unusual uses originality, unusual uses creativity, blocks originality and inquisitiveness. Significant differences were elucidated in the level of creativity across various independent variables such as, gender, age, academic class, consecutive academic record, academic performance stress, teaching method employed by teachers and mass media use etc.. Further, it was portrayed that home and school environment contributed in the development of creative abilities. Research findings revealed significant correlations across various sub-aspects of the creativity which showed that the presence of different types of creative abilities directly influences the level and emergence of other sort of creative behavior. Significant increase in the adolescents creativity scores was noticed after the implementation of the acceleration program which indicated that creative potential of the adolescents can be nurtured and enhanced with proper guidance and planning. Hence, collaborative efforts need to be taken up by parents, teachers and researchers to motivate, guide and support students unique creative spark by providing them creativity-stimulating home and school environment.

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k) Medals/ Honors received :

- Qualified National Eligibility Test (CBSE –UGC NET) Examination-July 2018
- Qualified National Eligibility Test (NTA-UGC NET) Examination- June 2019

l) List of publications :

- Sheoran, S., Dhanda, B. and Duhan, K. (2020). Comparison of creativity of adolescents across parental education. *International Journal of Education and Management Studies.* **10**(4): 474-477. (NAAS Rating= 4.79, NAAS Score of Science Journals, 2020)
- Sheoran, S., Dhanda, B. and Duhan, K. (2020). Assessment of creativity of young adolescents across parental occupation. *Indian Journal of Health and Wellbeing.* **11**(10-12): 615-618. (NAAS Rating= 4.13, NAAS Score of Science Journals, 2020)

Sumit Sheoran

UNDERTAKING OF THE COPYRIGHT

I, Sumit Sheoran, Adm. No. 2017HS8D undertake that I give copyright to the CCS HAU, Hisar of my thesis entitled, **"Acceleration of Creativity among Academically Bright Rural Adolescents".**

I also undertake that, patent, if any, arising out of the research work conducted during the programme shall be filed by me only with due permission of the competent authority of CCS HAU, Hisar.

Signature of the Student