

A MINOR RESEARCH PROJECT ON
“EFFECTIVENESS OF A PROGRAMME FOR DEVELOPING
CREATIVITY OF HIGHER PRIMARY STUDENTS”

Submitted by

Prof.Jagruti J. parmar
Lecturer
Shree sarvajanik college of education
Godhra (Panchmahals)
Gujarat

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“Creative children are assets to the society. Development and progress in various fields of national life depends on creative children. Creativity is not restricted to the chosen few. All children are creative and its dimensions vary from child to child.”

CHAPTER-1

Conceptual framework of the study

1.0 INTRODUCTION :

The Almighty god, the creator of the universe, is the supreme mind who possesses the finest creative ability. He has created all mankind and all that is found in nature.

The Humans are elevated to be called the crown of his creation. According to Indian philosophy, human beings are constituents of the supreme power, as the rays of the sun are the constituent parts of their creator namely the sun. Therefore everyone of mankind ought to possess creative abilities, and has these abilities. Everyone is a unique creation, and so does not possess the same creative ability. Some people are endowed with high creative talents and contribute to advancement in the field of art, literature science, business, teaching and other spheres of human activity and responsible for propounding new ideas and bringing about social and cultural changes. Mahatma Gandhi, Abraham Lincoln, Homibhabha, Newton, Shakespeare, LeoNardo etc. were some of the creative individuals who left their mark in their chosen fields. Though they were undoubtedly gifted with creative abilities, the role of environment in terms of education, training and opportunities on their development can not be over looked.

Good education, proper care and provision of opportunities for creative expression inspire, stimulate and sharpen the creative mind and it is in this sphere, that parents, society and teachers make a significant contribution. They are required to help the children in nourishing and utilizing their creative abilities to the utmost. The educational process therefore should be aimed at

developing creative abilities among children. This can be achieved by acquainting the teachers and parents with the real meaning of the creative process and the ways and means of developing and nurturing creative thinking abilities in them.

1.1 creativity: the nature and concept :

There are many interpretations of the concept of creativity. The concept has been studied from a variety of disciplines- philosophy, sociology, neurobiology, psychology and so on. Each view point reflects its own relevant approach. The focus here is to describe the basic nature of creativity from the perspective of educational psychology avoiding various conceptual issues. In other words, the emphasis is on how teachers should view and understand creativity in a classroom situation in terms of applied aspects.

As a psychological construct, creativity has proved to be difficult to be understood in one single measure. There is no universal definition of creativity. From psychological point of view, attempts have been made to operationalise the term in order to study it scientifically. There are about 50 to 60 definitions in the psychology literature, each emphasizing different aspects of creativity. Some persons place more emphasis on qualities of the person who creates, others stress on how creative ideas and solutions are arrived at, still others highlight the qualities of the products to be judged as creative.

Creativity is visualized as a multivariate phenomenon. This is well reflected in the great diversity of definitions and variety of meaning attached to it. Some definitions of creativity given by different authors are as follows:

1.1.1 *few definitions of creativity :*

Thurston (1955): “An act is creative if the thinker reaches the solution in a sudden closure which necessarily implies some novelty to him.”

Stein (1953): “A process is creative when it results in a novel work that is accepted as tenable, useful or satisfying by a group at a point of time.”

Rogers (1959): “A creative process is the emergence in action of a novel relational product, growing out of the uniqueness of the individual on the one hand, and the materials, events, people or circumstances of his life on the other.”

Lahois (1963): creativity as a complex human attribute that is manifested as a cognitive empirical process from which an original product emerges.”

Drevahal (1965): “creativity is that human ability by which he presents any novel work or idea.”

Glen hass (1968): “creativity is the bringing into existence ideas or products new to the individual, but not necessarily new to the others.”

Passi (1973): “creativity as a multi dimensional (verbal and non verbal) attribute differentially distributed among people and includes chiefly the factors of seeing problems, fluency, flexibility, originality, inquisitiveness and persistency.”

Welsch (1980): “creativity is the process of generating unique products by transformation of existing products. these produces, tangible and intangible, must be unique only to the creator and must meet the criteria of purpose and value established by the creator.”

1.2 : creativity- levels and types

(a) levels of creativity :

Creativity operates at different levels. The higher order level creativity might change the meaning of the universe, whereas, the lower order level may marginally develop an idea or improve a product. All children have some element of creativity. It may be expressed in a child's writing essays, oems, paintings, drawings, music, dance, classroom discussion, experiments, working on projects and co curricular activities.

Ghiseline (1963) puts creativity under two broad levels.primary and secondary. Primary creativity is that which, "alters the universe of meaning or some new order of significance,or more commonly both." The work of Einstein (theory of relativity), Copernicus,haevey, freud, piaget and other are good examples of primary creativity.

Creative action at the secondary level brings about further development to an established body of knowledge. For example, took up,binet's test of intelligence, refined and modified them. And added new tests. Binet's work would come under primary creativity while that of tarman under secondary creativity.

(b) types of creativity:

Creativity is of two types- verbal and non verbal creativity. The child may show creative 13easured in writing or composing poems, this is verbal creativity. The child may show creative behavior in drawing,painting, craft etc. this is non-verbal creativity.

Some students are good on verbal creativity ,whereas others may be good on non-verbal or both. Normally creativity includes the capability of

producing more ideas in many different directions and giving original responses along with their relevant details for the solutions of a given problem.

Thus on the basis of the above discussion it can be concluded that creativity is not limited to artistic productions or scientific inventions and discoveries. It can find expression in any activity, however humble or grand it may be. It makes an object or activity better, richer, more productive, fruitful and aesthetically satisfying. Ultimately it proves that creativity is mankind's greatest asset and creative people are the backbone of any nation. Hence, the need of **why** and **how** to identify, nurture and develop the creativity among individuals has been strongly felt.

1.3 identification, nurture and development of Creativity

“Full many a flower is born to blush unseen”-is an oft quoted line from Thomas Gray. The creativity bugs would like to say, probably, that many a bud is dry without even blossoming. So the practical problem becomes one of devising the best means of identifying, nurturing and developing the creativity which exists in the students.

Through creativity, the individual not only identifies himself with what he is not, also gains distance from it, unlike the burdens of everyday life. Thus creativity becomes a magic aid towards mastering the real world. Controlling nature and developing social relationship.

Torrance (1963) declares that creative talent be identified, developed and utilised. And finding the talented, known their potentialities serves two purposes:

- (i) Individuals are helped to fulfill their promises and

- (ii) Society is enriched. Hence, sincere attempts for early identification of creative talents are required.

1.3.1 Identification of creativity

- (i) The non-testing techniques:

- (a) observation
- (b) ratings
- (c) Biographical data and Anecdotal Records
- (d) Questioning
- (e) Check-lists

- (ii) The testing techniques:

Measurement of creativity has been one of the most important areas of research in the field of creativity. A variety of tests have been developed for assessing creativity of students of different age groups. Like,

(a) **Guilford(1950)** and **Torrance(1968,1974)** have done monumental work in this field by measured the creative ability and developing tests for measuring the same through various factors included in it.

(b) **khatena(1973)**, **Wallach kogan(1965)**, **mednick(1967)** also contributed to the development of creativity tests based on their concepts of creativity.

In India, **Khire(1984)** has constructed a battery of tests based on Guilford's structure of intellect model for students from class-VIII to Xth.

Attempts have also been made by **passi (1972)**, **Baquer mehdi(1973)**, **Kual(1974)**, **Ramchandran(1974)**, **Dave(1980)** **Gilitwala(1978)**, **Patel(1986)** and **Chaudhri(1986)** to development their tools for measuring creativity in the

line of Torrance's test. However, some investigators have also developed tests of creativity in different areas. These are tests of literary creativity(**rao,1982;Kundley,1977**), scientific creativity(**singh,1978;shukla,1980**), mathematical creativity (**parasnis,1985 ; Tuli,1979**), and creativity in physical science(**Gupta, 1980**).

Generally creativity tests have been used for research purposes, rather than for selection or identification of creative children in India.

1.3.2 Nurturing of Creativity :

(1) Home :

- (a) Non-authoritarian Attitudes of parents
- (b) Emotional support
- (c) Freedom
- (d) Involvement in creative work
- (e) Discipline
- (f) Early identification of creativity
- (g) Appreciating creative measures
- (h) Variety
- (i) Availability of Role models

(2) School :

- (a) psychological freedom and safety
- (b) opportunity and support for creative work
- (c) classroom learning environment
- (d) evaluation
- (e) close liaison between teachers and parents

(3) Society : The community which causes a barrier when it ignores creativity while socializing children, to be productive.

1.3.3 development of creativity :

Our schooling provides many opportunities to a teacher to create conducive conditions by using different creative teaching methods and techniques to develop the creative thinking and learning processes among the students. Some of these quite effective these are :

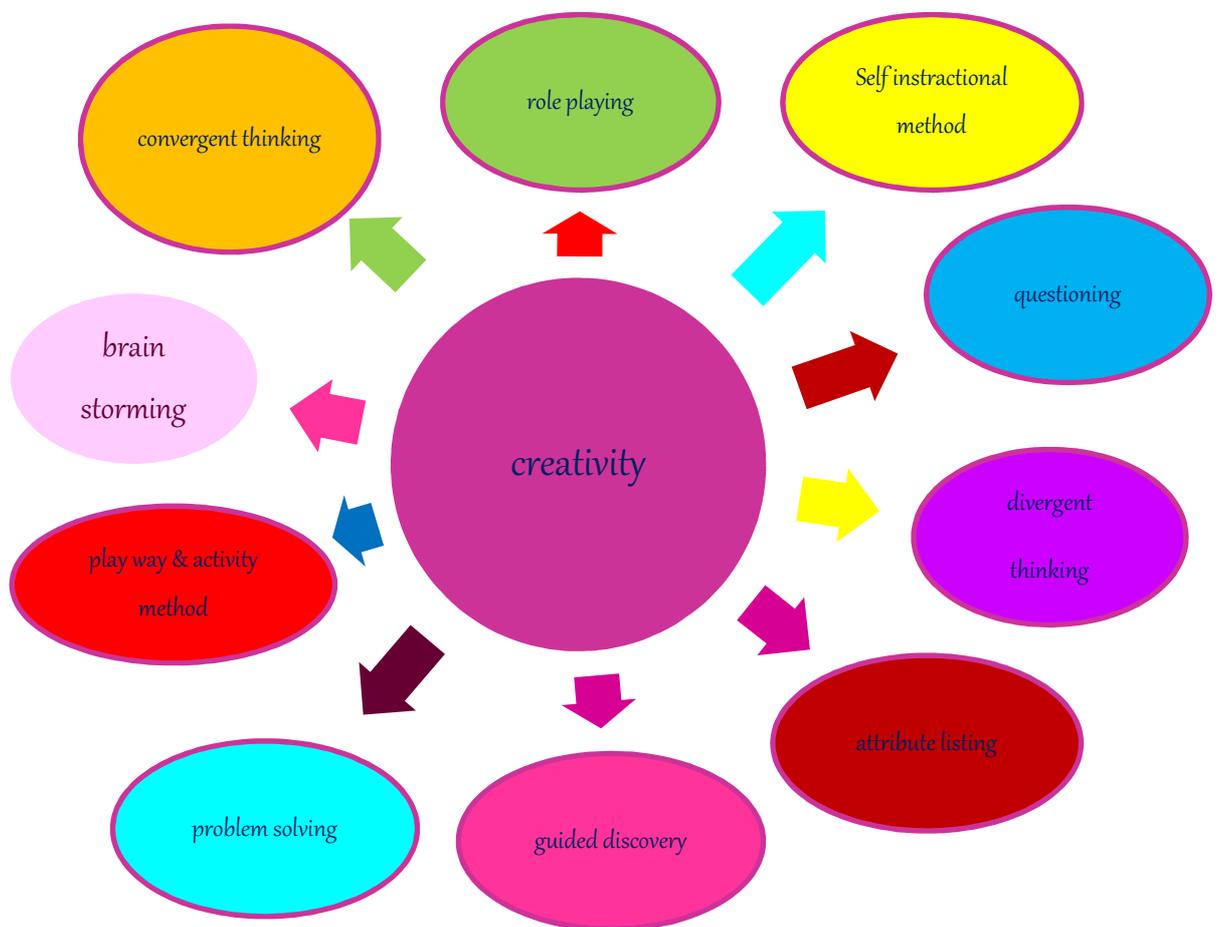


Figure-1.1

(i) Brain-storming :

- (a) Sensing the problem
- (b) Fact finding
- (c) Ideation
- (d) Evaluation of ideas
- (e) Planning for implementation

(ii) Attribute listing

For AL following types of product or activity can be selected :

- Comb
- Convocation
- Play-ground

(iii) Synectics :

Designed by Gordon and his associates . There are four famous analogies in synectics

- (a) Fantasy analogies
- (b) Direct analogies
- (c) Personal analogies
- (d) Symbolic analogies

(iv) Role-playing :

The description of the role playing session is given in the following steps:

- (a) Defining the problem situation
- (b) Selecting role-players
- (c) Warm-up
- (d) Briefing
- (e) Enactment

- (f) Discussion
- (g) Evaluation
- (v) Morphological Analysis : by Zuricky 1957.
- (vi) Questioning uturistic:
 - (a) Convergent questions
 - (b) Divergent questions
 - (c) Hypothetical questions
 - (d) Consequential questions
 - (e) Redefination questions
 - (f) Provocative questions
 - (g) Futuristic questions
- (vii) Self-Discovery and Guided-discovery method :
- (viii) Play-way and Activity method
- (ix) Creative writing : like,
 - Composing a poem
 - Identicification
 - Dialogue writing
 - Giving similies
 - Looking ahead
 - Visualization
 - Composing a story
 - Bringing in humour
 - Writing an advertisement
 - Alerting the senses

1.4 Rationale of the Study :

Every individual, every student, every teacher is creative and his creativity can be nurtured, Nourished and enhanced. The rationale for undertaking the study was based upon the proposition that development of creativity is essential for the progress need for the maximum utilization of human resources specially the intellectual aspects ones demands the try out some teaching strategies for developing creativity.

In the manpower is in dearth when looked from the national requirement. If the vast human resources available in India can be developed, a number of national problems can be easily solved. It has been said that by and large creativity is one of the greatest national assets responsible for individual, social and cultural dynamism. It is an essential element in self renewing man and society. The persons trained in the creative process has greater chance of developing worth while innovations than the persons without such specialized training.

It is in this context that the present study ventured to try out the students of std. VIII in developing creativity.

Chapter-2

Review of Related literature

2.0 Introduction :

Research work in any field brings its effectiveness through comprehensive study of related literature. It enables the researcher to know what is already known and what is unknown and untested so far. This chapter presents the review of research conducted in this field. An attempt has been made to develop an overall understanding about the nature and findings of the research conducted earlier with a view to draw implications for the present study.

2.1 Overall review of Related Studies :

Creativity research in India is a new field of study at school stage as compared to developed countries. What is attempted below is to provide a review of some of the most pertinent studies carried out in this area.

Smith's (1967) self-esteem scales, were used to measure creativity and self-esteem respectively. New dimensions in creativity programme was used for 16 weeks. The analysis indicated that the experimental made significant improvement on the five out of seven factors of creativity as well as on subjective self-esteem.

Chaudhary (1983) studied the trends of creative thinking ability of pupils of age group 11 to 13+ in relation to some psycho socio correlates. The main objectives of the study were to study the trend of creative thinking ability of pupils of different sexes and the ability of pupils of age group 11 to 13+. The tools used were reliability and validity of the test and factorial design was used to study creative thinking ability in relation to various psycho-socio variables.

The findings showed that the students with high emotional stability had more creative thinking ability than the students with low emotional stability and there was marked difference between the mean score on the test of children of three age groups. The higher the socio-Economic status the greater was the creative thinking ability of the students.

Statsionos (1986) assessed a training programme for the development of creativity and self-esteem in mentally handicapped Greek children. Verbal and figural sub tests selected from Torrance Test of Creative Thinking.

Patel (1987) was used the measure creativity of the students A 2x2 factorial design was evolved and ANOVA was used to analyse the data. The main effects of implementation of thinking programme was significant for the creativity and its two components viz. fluency and originality, while the third components i.e. flexibility level could not enhanced by this programme.

Manning and perimutter (1988) conducted a study to facilitate creativity of student-teachers through post observation conferencing. The experimental was given post observation conferencing and feedback using check-list with supervisor explanation for ratings. Analysis of the preassessment of both the groups indicated no beginning differences between them on any of the development measures of creativity. Results comparing the treatment and control group revealed that the De Bono group was significantly more flexible, fluent, original and elaborate than the control group and also had significantly higher total scores on creativity.

Martis (1991) trained student-teachers for the synectics teaching model. She found that a training treatment consisting of theory, discussion demonstration and practice helped in developing teaching competence. The student-teachers trained through the synectics model developed fluency, flexibility and

originality. A part from these findings, matis demonstrated that creativity oriented teacher training is possible provided one desires to implement it.

Mandal (1992) evolved an autonomous creativity cultivation programme for school students and found it not to be effective for creativity development. At pre-service level.

Patel (1993) prepared a programme on creative thinking programme consisted of a bunch of 25 items focusing on the lives of great people and on events from the world history, to study its effectiveness. A total of 162 boys and girls from classes of std. vth of Gandevi Taluka of valsad district were selected as the sample for the study. Out of 4 classes two classes were treated as experimental whereas the other two classes were treated as control group 'pre-test-treatment-post test' design was adopted.

- Although many psychologists have expressed an interest in the phenomenon of creativity, psychological research on this topic did not rapidly expand until after J. P. Guilford claimed, in his 1950 APA presidential address, that this topic deserved far more attention than it was then receiving. This article reviews the progress psychologists have made in understanding creativity since Guilford's call to arms. Research progress has taken place on 4 fronts: the cognitive processes involved in the creative act, the distinctive characteristics of the creative person, the development and manifestation of creativity across the individual life span, and the social environments most strongly associated with creative activity. Although some important questions remain unanswered, psychologists now know more than ever before about how individuals achieve this special and significant form of optimal human functioning. (PsycINFO Database Record (c) 2013 APA, all rights reserved)

Chapter-3 :

Methodology of the study

3.0 introduction :

This chapter describes in detail the methodology chosen for the present study to achieve the objectives of the study. The methods employed in the investigation the selection of the sample, tools used creativity test, the statistical technique used in the analysis of data are described in the chapter.

3.1 Need and importance of the study

School is the only place where perhaps an organized effort can be made to ensure a continuous flow of trained intellect.

Unfortunately, the organization of our schools, our curricula, our text books and our teaching methods pay homage to what Osborn(1963) said, the same 'God of Conformity'.

It is but natural to expect in such a situation that the urge to enquire, to invent to experiment is curbed in the millions of our school children resulting in the death of creative spark.

Torrance(1969) is of the view that if waste of human talent is to be prevented and if creativity gifted students are not to choose the paths of delinquency, mental illness or at best a life of mediocrity and unrealized potentialities, it becomes unboubtedly essential that serious attempts are made towards measurement of factors which would determine creativity.

As is generally observed, many students seem to possess the seeds of creativeness but the environment fails to provide full nourishment for their growth.

Thus the assessment of a broad range of predictors at all stages of children Education. Of the different educational levels the upper primary has been the most neglected stage in creativity research.

Gupta(1974) surveyed the field of creativity in India and found projects in various stages of completion as mentioned in the Table 3.1

Table 3.1

Classification of Indian Researches on Creativity in Major Fields

No.	Field of Creativity	No. of studies
1	Process	26
2	Relation to personality	29
3	Relation to achievement and other variables	07
4	Creative environment	06
5	Creative product	03
6	Miscellaneous	05

3.2 Statement of the Problem :

“ EFFECTIVENESS OF A PROGRAMME FOR DEVELOPING CREATIVITY OF HIGHER PRIMARY STUDENTS ”

3.3 operationalization of the terms used :

Creativity :

Creativity is a process where the individual located gaps in ideas, thinks of alternative solutions to a problem, persists on an idea, does not easily agree to what is usually thought to be correct and has unique/original ways of thinking or doing.

Fluency :

The ability to think well and effortlessly in order to generate a quantity of ideas, responses, solutions or questions.

Flexibility :

The ability to easily abandon old ways of thinking, adopt new ones, and produce ideas, responses, questions, or solutions in a variety of categories.

Originality :

The ability to develop ideas that are statistically unusual, novel or unique.
Higher primary students .

A Creativity Programme :

This programme is constructed by the investigator with a view to nurture and develop the creativity level of Std. VIIIth students of upper primary level. Here, the creativity programme relates to a collection of activities based on different subjects and existing curriculum of Std. VIIIth, in a form of worksheets with exercises and workshop schedule. The following components of creativity have been kept in mind and recognized to study the effectiveness of creativity programme.

Effectiveness :

Effectiveness of the creativity programme in the present study has been judged on the basis of the differences in the mean creativity score of pre-test and post-test for the experimental group.

Creativity level of upper primary students :

Creativity level of upper primary students is represented by their total score on various components of creativity such as fluency, flexibility, originality which can be measured by the test of creativity by Baqur mehdi.

3.4 Objectives of the Study :

The study has been carried out with the following objectives:

1. To identify the creativity level of std-VIII school students.
2. To develop a creativity programme for std.VIII school students.
3. To study the effectiveness of creativity programme with respect to Creativity components.
4. To study the effectiveness of creativity programme by comparing pre test and post test results of a single group.
5. To compare the effectiveness of creativity programme as observed in the results of boys and girls.
6. To study the development of creativity both in the case of the boys and the girls.

3.5 Hypotheses :

The objectives of the present study are achieved in terms of the following hypotheses:

HO1 : There will be no significant difference in the mean creativity score of the Pre test and post-test.

HO2 : There will be no significant difference in the mean fluency score of the Pre test and post-test.

HO3 : There will be no significant difference in the mean flexibility score of the Pre test and post-test.

HO4: There will be no significant difference in the mean originality score of the Pre test and post-test.

HO5: There will not be any differential impact of the creativity programme on the Upper primary School Students of different gender in terms of mean Creativity Score.

3.6 Delimitations of the study :

1. The Study was delimited to the upper primary school students of Std.VIII in the unnati prathamik shala, panjarapole, Godhra. Dist.- panchmahals.
2. The Creativity level of the Std.VIII was identified in terms of its Three Components
viz. Fluency, Flexibility and Originality.
3. The Creativity Programme was prepared in Gujarati language only due to the above mentioned limitation.

3.7 Variables of the Study :

1. **Independent variable** : Developed Creativity Programme was the independent variable.
2. **Dependent variable** : Creativity with there components fluency, flexibility and originality were the dependent variable.
3. **Control variable** : standard-8th studends

3.8 sample :

The sample selection is a very important job in any research. Sample should be selected in such a way that it should represent the population. One cannot judge sample soletly in fermes of number of the schools or the type of students.

One upper Premary school (Gujarati medium) was chosen according to the need and feasibility of the researcher. 52 (fifty two) students of std. VIII were selected.

The sampling method used in the investigation was purposive.

3.9 Tools used for the Study :

Data were collected on the following tool:

3.9.1 Verbal Test of Creative Thinking by Baqur Mehdi

❖ Description of Tools:

The verbal test which has been used in the study is a part of the total battery which consists of both verbal and non-verbal tests. The verbal test of creativity includes four sub-tests, namely, consequences test, unusual uses test, similarity test and product improvement test.

➤ **Consequences test:**

The subject is required to think as many consequences of the situation as he can. The test encourages free play of imagination and originality. The time allowed for the three problems is four minutes each.

➤ **Unusual Uses Test:**

The test presents the subject with the names of three common objects- a piece of stone, a wooden stick and water- and requires him to write as many novel, interesting and unusual uses of these objects as he may think of. The time allowed for the three tasks is five minutes each.

➤ **New Relationships Test:**

The test presents the subject with three pairs of words apparently different tree and house, chair and ladder, air and water and requires him to think and write as many novel relationships as possible between the two objects of each pair. The time allowed for each pair of words is five minutes.

➤ **Product Improvement Test:**

In this test the subject is asked to think of a simple wooden toy of a horse and suggest addition of new things to it, to make it more interesting for the children to play. The time allowed is six minutes.

❖ **rationale for the Activities included in the Test**

In this section an attempt has been made to give a rationale for the selection of different types of activities included in the test.

➤ **Consequences**

The basis of this activity is Guilford's consequences Test or Torrance's just suppose Activity. The event is mentioned and the subject has to think of the consequences that may occur as a result of that stimulus, event, or happening is usual or unusual, logical or illogical. Thus the number of relevant responses produced by the subject yields a measure of his ideational fluency, the number of shifts in the thinking trends of the consequences gives the measure of verbal flexibility and the statistical infrequency of the response gives the measure of originality.

➤ **Unusual uses**

The basic idea of these tasks comes from Guilford's Brick Uses Test or Torrance's Tin can Uses Test or Card Board Boxes Uses Test. Common things like water, wooden stick and a piece of stone are used as stimuli to let the subject's thinking go in different directions. The number of relevant responses may give the measure of one's ideational fluency, the number of thought categories the measure of verbal flexibility and uncommonness of responses a measure of his originality.

➤ **New Relationships**

Mednick worked extensively with word associations and his definition of creativity is based upon remoteness of such associations. The items of this activity provide possibilities for scoring responses for fluency, flexibility and originality.

➤ **Product Improvement**

This test of verbal imagination is similar to the one found in Torrance's Product Improvement Activity. Torrance used a picture of a Toy monkey, but in this test the subject is only asked to imagine a figure of Horse Toy. Apart from ideational fluency, the test also measures flexibility and originality.

➤ **Reliability of the test :**

The test-retest reliabilities of the factor scores and the total creativity score were obtained on a sample of 31 students and are given below:

Fluency	Flexibility	Originality	Total Creativity Score
.945	.921	.896	.959

➤ **Validity of the test**

The validity coefficients for factor scores against the teacher-ratings are:

Fluency	Flexibility	Originality	Total Creativity Score
.40	.32	.34	.39

All the correlations are significant beyond .01 level.

The validity co-efficients for factor scores and the total creativity scores are high enough (significant beyond .01 level) to place confidence in the use of the test.

3.9.2 Preparation of the creativity programme :

As the second significant tool for the present study, the investigator has prepared a creativity programme for std.VIIIth students. With a view to develop and enhance the creativity level of std. VIIIth students. Perhaps, creativity is difficult to teach in a direct way, but it is a matter of experience, and hence, the investigator has attempted in the present study to construct situations for std.VIIIth students to experience creativity and then recognize creative efforts and products. These elements-‘experiencing creativity’, ‘developing skills of constructing situations for exercise of creative talents’ and ‘recognising creativity form’ are the very foundation of creativity programme for upper primary school students. One purpose of creativity programme is thus, to provide experience in creativity and development of creative talents in upper primary school students. The second purpose is to equip the std. with theoretical knowledge and practical skills in developing creative talents in the coming generation.

Preparation of creativity programme for std. VIIIth students, has been described under two distinct parts, which are as follows:

(i) content of the creativity programme

(ii) methodology

(i) Content of the creativity programme:- As a major task of the present study, the investigator has developed ---- sub-activities under 19 activities as a part of the creativity programme by taking help of the experts in the field. For some of the activities, the related reference materials were also prepared. The content of the creativity programme was based on upper primary school subjects like, Gujarati, Maths, English Drawing etc.

(ii) methodology:- The developed sub-activities were classified under different school subjects. Then all the sub-activities and prepared

reference materials were discussed with a panel of two experts with respect to their appropriateness, relevance, capacity to describe creativity and its components and applicability of the activities in prescribed limit of time. Based on their suggestions, all those activities and reference materials requiring modifications were rewritten by the investigator. The list of the experts can be referred from the Appendix-I and the creativity programme with detailed information can be referred from the Appendix-VIII. Thus, Finally the creativity programme was prepared by keeping in view the following criteria.

- (i) As the medium of instruction in Std. VIIIth students is Gujarati, the creativity programme was prepared in Gujarati only.
- (ii) As the sample selected for the experimentation was from the std. 8th only.
- (iii) As the creativity programme was to be implemented as a special treatment for creativity development of std. 8th students, it was prepared in the form of different activities with examples, exercises and workshop schedules.
- (iv) While constructing various activities of the creativity programme, the three components of the creativity viz. fluency, flexibility and originality were kept in mind.
- (v) All the activities prepared under the creativity programme were based on various techniques for creativity development, as they have been proved very effective in developing creativity by many researchers.
- (vi) The creativity programme was to provide a direction to std. 8th students for developing creativity among the students in context with the competency based approach implemented at primary level, in the state of Gujarat.

3.9.2.1 Description of the creativity programme :

The description of all the activities of the creativity programme with respect to their titles, total number of sub-activities, approach to be adopted, components which can be developed and the related techniques for creativity programme is shown in the table no. 3.2

Table no. 3.2

Description of all the activities of the creativity programme in related to components of creativity, approach used and related techniques used

Sr. no.	Title of the Activity	Total no. of sub-Activities	Approach used	Components of creativity	Related Techniques
	Encouraging lecture & discussion		Discussion	F, Fl, O	Questioning, Divergent thinking,
1	Playing with words	2	Activity based	F, Fl, O	Gaming, Divergent thinking
2	Flow of thoughts	4	Activity based	F, Fl, O	Gaming, Divergent thinking
3	Spelling game	4	Activity based	F, Fl, O	Gaming, Divergent thinking
4	Mathematical concepts	5	Activity based	F, Fl, O	brain storming, Problem solving, self discovery, Divergent thinking
5	Number Game	3	Activity based	F, Fl, O	Gaming, Divergent thinking
6	Pleasure with language	5	Activity based	F, Fl, O	Creative I, Divergent thinking
7	New use of things	6	Activity based	F, Fl, O	brain storming, Problem solving, self discovery, Divergent thinking
8	Similarity	8	Activity based	F, Fl, O	Creative I, Divergent thinking
9	Extra-ordinary incident/ composition/ Constitution	8	Activity based	F, Fl, O	brain storming, Problem solving, self discovery, Divergent thinking

10	Renovation	1	Activity based	F, Fl, O	brain storming, Problem solving, self discovery, Divergent thinking
11	Playing with shapes	1	Activity based	F, O	Gaming, Divergent thinking
12	Flow of thoughts	3	Activity based	F, Fl, O	Creative I, Divergent thinking
13	Decorated sentence addendum	5	Activity based	F, Fl, O	Creative I, Divergent thinking
14	How can I become a poet ?	1	Activity based	F, Fl, O	Creative I, Divergent thinking, brain storming
15	Developing a Story	5	Activity based	F, Fl, O	Creative I, Divergent thinking, brain storming
16	Pictorial story	2	Activity based	F, Fl, O	Creative I, Divergent thinking, brain storming
17	Art writing & Awareness through pictures and slogans	2	workshop	F, Fl, O,	Creative I, Divergent thinking, brain storming
18	Verbal description	5	Activity based	F, O,	Creative I, Divergent thinking, brain storming
19	Script writing & mono acting	1	workshop	F, O,	Creative I, Divergent thinking, brain storming
20	Dramalization of a lesson	1	workshop	F, Fl, O,	Creative I, Divergent thinking, brain storming
21	Let us create...!	3	workshop	F, Fl, O,	Creative I, Divergent thinking, brain storming

It can be observed the table no.3.2 that the various activities included in the creativity programme were related to the different techniques for creativity development viz. divergent thinking, brain storming, problem solving, creative writing, gaming(learning through play and learning by doing), questioning, self discovery and guided discovery, synectics, attribute listing, role playing etc. Also out of the total 07 sub-activities, 04 activities were based on workshop approach, where as 68 sub-activities, 17 activities were based on activity based approach. The creativity programme used in the present study for the experimentation is given in the Appendix-VIII, with detailed information.

As the creativity programme was related to the above mentioned techniques and aimed at developing creativity with respect to its components viz. Fluency, Flexibility and Originality it seems that there would be a wide scope for laying good foundation for creative thinking and opportunities and a proper direction to the std.VIII, to use their creative abilities while its implementation. Thus, the creativity programme was prepared and implemented, the procedure of which is described in the next section procedure of data collection.

3.10 procedure of data collection :

This work was carried out in three phases, the details of which are described below:

Phase-I (pre test)

During this phase, the data pertaining to scores on creativity and its components was collected by administering the creativity test on std.-VIII as a pre-test.

The verbal form of the test was administered.

Phase-II (Treatment)

In this phase the creativity programme was conducted on the std. VIII for 20 days. i.e. from 16th of July 2014 to 04th August 2014; as a treatment.

- **Prior to implementation of the creativity programme, the following preparations were made:**
 - A schematic presentation for conducting of the creativity programme was prepared

- The conduct of activities based on workshop approach, were scheduled on Sunday and public holidays. A half break was given for refreshment during that time.
- The sufficient number of copies of the activity worksheets and reference materials for the activities based on workshop approach, were prepared.
- Some slides were also prepared for the pictorial presentation of some picture based activities.
- The essential material for the related activities were purchased.
- All the std. VIII students were informed well in advance, to collect all types of available waste materials from their surroundings to develop their skill of “making best out of the west.”
- The experts who had given their contribution in preparing and validating the creativity programme, were invited to work as resource persons or experts during the implementation of the creativity programme, keeping in mind the vital role of the mentors in developing creative ability.
- The arrangements were made to call the subject resource persons at their ease to take the advantage of their guidance.
- The std.VIIIth students were provided a fullscape note book to give their responses of the activities of the creativity programme.
- The std. VIIIth students were motivated to participate activity and regularly during the implementation of the creativity programme and to develop their skill according to the guidance and direction provided.

After the above pre-planning, the implementation of the creativity programme was commenced from 16th july 2014. It was implemented with the help of experts. The investigator had fulfilled the requirement of both, the convener and an expert. The implementation of the creativity programme was based on two types of approaches namely;

(i)Activity based approach and (ii) workshop approach

(i) Activity based approach :-

Under this approach according to the schematic presentation all the students of std.VIII were provided the activity worksheet and the related materials as mentioned in it. The students of std.VIII were informed to read the instructions carefully and to do the activities according to the given examples in the worksheet. They were also informed to ask the investigator whenever they find any word or statement difficult to comprehend. During the treatment, they were also motivated and guided to prepare more activities on the line of the given examples in the worksheet.

(ii) workshop approach :-

Under this approach, according to the schematic presentation, all the students of std.VIII were provided the prepared reference material related to theivity, alongwith the activity worksheet. After that, the expert had given the comprehensive explanation of the same by relating it with the given example or with the guidance, supervision and motivation of the experts.

During the entire phase of this treatment the following points were given prime importance.

- The students of std.VIII were encouraged to work individually or in the group according to the activity, and to think divergently.
- Each and every student was given an opportunity to present his novel, innovative and sprouted ideas.
- The follow-up work or exercise which was expected to be done in some of the activities, were guided, supervised and encouraged.
- The proper guidance was given to the students of std.VIII at anytime during this phase, related to any activity.

Thus, the implementation of the creativity programme was completed as a treatment according to the schematic presentation shown in the Table No. 3.3

Table No. 3.3
Schematic presentation of the treatment given to the students of
std.VIII

Date	Treatment	Time
17/07/2014	Encouraging lecture	30 minutes
17/07/2014	Playing with words	10 minutes
17/07/2014	Flow of language	20 minutes
18/07/2014	Spelling game	10 minutes
18/07/2014	Checking of mathematical calculations	10 minutes
18/07/2014	Playing with numbers	15 minutes
19/07/2014	Roaming in language	50 minutes
21/07/2014	Usage of things in new way	1 hour
22/07/2014	Similarity	1 hour 20 minutes
23/07/2014	Extraordinary events	1 hour 20 minutes
24/07/2014	Renovation	15 minutes
24/07/2014	Playing with sapes	1 hour
25/07/2014	Flow of thought & idioms	30 minutes
25/07/2014	Making adorable sentences	30 minutes
26/07/2014	How can I become a poet?	15 minutes
28/07/2014	Developing a Story	3 hour
29/07/2014	Picture based story writing	1 hour
30/07/2014	Art writing Awareness throught pictures sloguns	1 hour
31/07/2014	Describing words	1 hour
01/08/2014	Script writing	3 hour
02/08/2014	Unit playing	1 hour
03/08/2014	Let us do the creation...!	3 hour

Phase-III (post test)

For the data pertaining to scores on total creativity and its components- fluency, flexibility and originality. The creativity test was administered as a post-test on students of std. VIII during the 04th august 2014. The procedure for

administration, scoring and collecting the data was in the same fashion as it was applied in the phase-I.

Thus the data was collected for the students of std. VIII in terms of pre-test and post-test's scores on total creativity and its components-fluency, flexibility and originality.

3.11 Data Analysis :

The data for the study were analyzed keeping the objectives of the study in mind. The 't'-test technique was applied to compare the creativity of the students in Pre-test and post-test and also between creativity of the boys and girls. Details of the analysis of data and their interpretation are given in the next chapter.

Chapter-4

analysis and interpretation of data

This chapter presents the results of data collected and analysed with respect to the various objectives of this study. Results are given from table 4.1, 't'-test values have been given. These results would help to test the Hypotheses 'H1 to H5.

4.1 Analysis of the data through Hypotheses :

HO1 : There will be no significant difference in the mean creativity score of the Pre test and post-test.

To verify significant difference between mean score of creativity of the Pre test and post test were collected and interpreted as under table : 4.1.

Table 4.1

Significance of difference in the mean creativity score of the Pre-test and post test

Creativity score	No. of students	Mean	Standard Deviation	t-value	t- table	Significance
Pre test	52	41.42	19.07	13.33	1.96(0.05) 2.58(0.01)	Significant At 0.01
Post test	52	149.29	55.12			

Table-4.1 above gives a comparative picture of the performance of std. VIIIth students on the total creativity on creativity test.

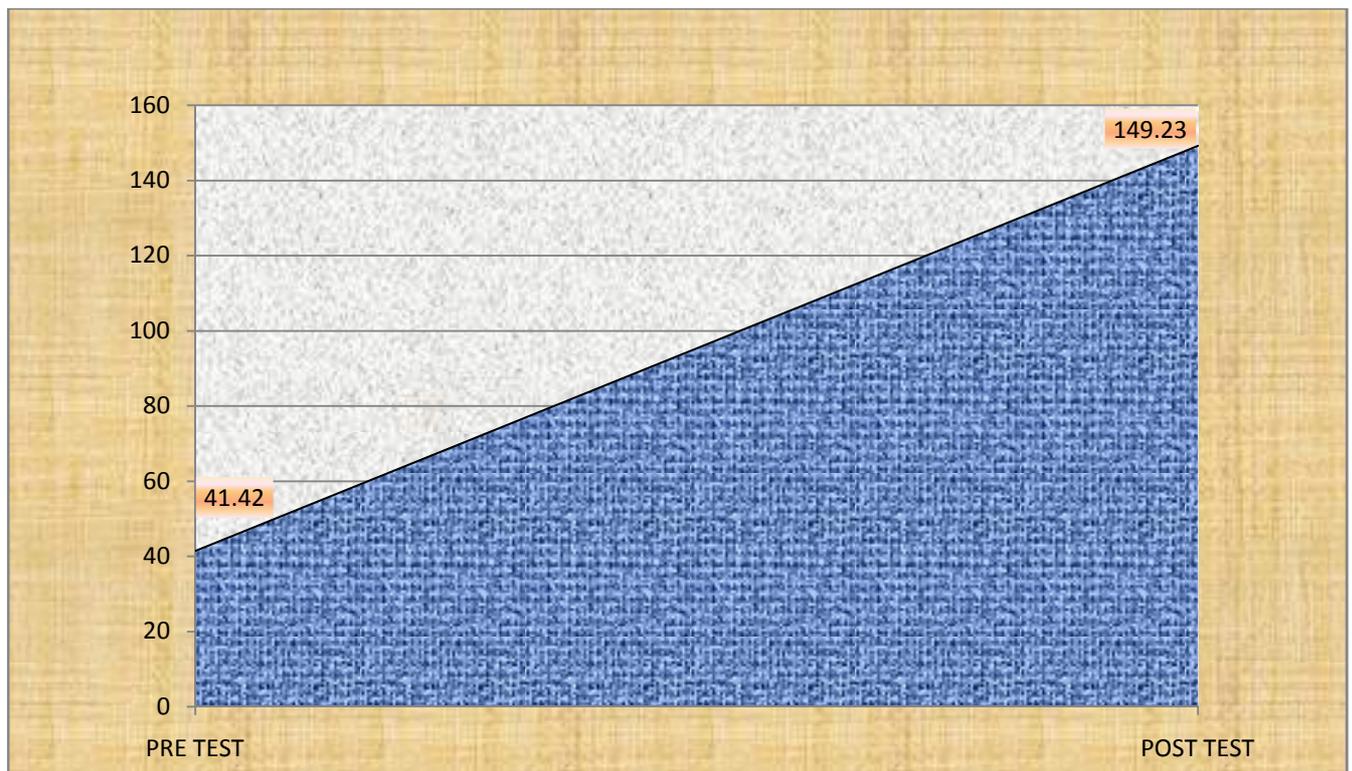
Looking at Table-4.1 it can be seen that the mean score of the std. VIIIth students in Pre-test performance of creativity is 41.42 and post test performance of creativity is 149.29. the mean score of post-test is higher than the mean score of the pre-test. This indicates that there is a significant difference in the

performance of the post-test as compared with pre-test in creativity. It is evident from table 4.1 that the calculated 't'-value of 13.33 is greater than the table values at 0.01 level.

So, the null Hypotheses that There will be no significant difference in the mean creativity score of the Pre-test and post-test is rejected. So the creativity programme is effective in developing creativity.

GRAPH-A

Significance of difference in the mean creativity score of the Pre-test and post test



HO2 : There will be no significant difference in the mean fluency score of the Pre test and post-test.

To verify significant difference between mean score of fluency of the Pre test and post test were collected and interpreted as under table : 4.2.

Table 4.2

Significance of difference in the mean fluency score of the Pre-test and post test

fluency score	No. of students	Mean	Standard Deviation	t-value	t- table	Significance
Pre test	52	21.80	09.46	11.12	1.96(0.05) 2.58(0.01)	Significant At 0.01
Post test	52	61.17	23.73			

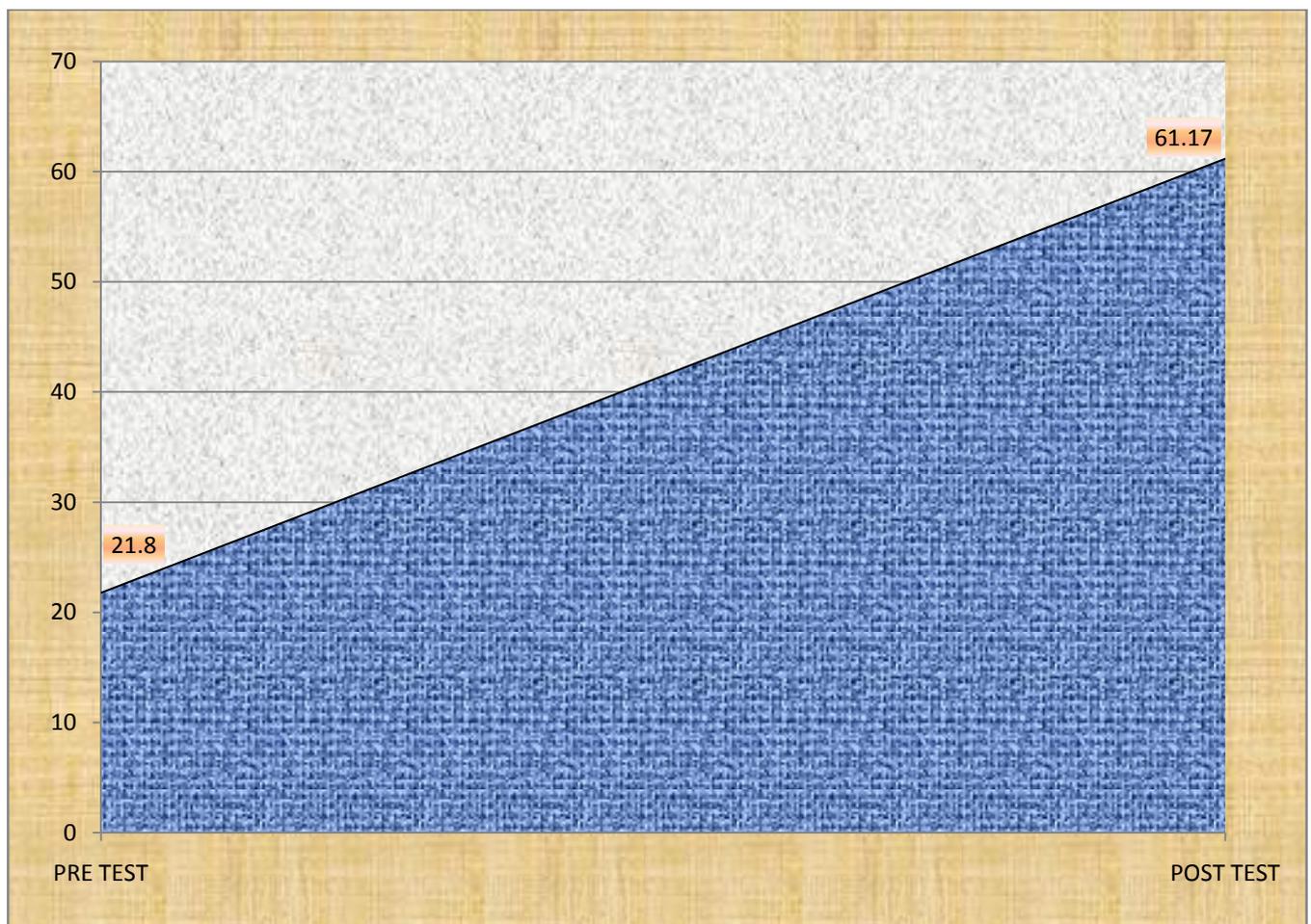
Table-4.2 above gives a comparative picture of the performance of std. VIIIth students on the component of Fluency on creativity test.

Looking at Table-4.2 it can be seen that the mean score of the std. VIIIth students in Pre-test performance of fluency is 21.80 and post test performance of fluency is 61.17 the mean score of post-test is higher than the mean score of the pre-test. This indicates that there is a significant difference in the performance of the post-test as compared with pre-test in fluency. It is evident from table 4.2 that the calculated 't'-value of 11.12 is greater than the table values at 0.01 level.

So, the null Hypotheses that There will be no significant difference in the mean fluency score of the Pre-test and post-test is rejected. So the creativity programme is effective in developing fluency.

Graph-B

Significance of difference in the mean fluency score of the Pre-
test and post test



HO3 :There will be no significant difference in the mean flexibility score of the Pre test and post-test.

To verify significant difference between mean score of flexibility of the Pre test and post test were collected and interpreted as under table : 4.3.

Table 4.3

Significance of difference in the mean flexibility score of the Pre-test and post test

flexibility score	No. of students	Mean	Standard Deviation	t-value	t- table	Significance
Pre test	52	15.17	05.65	02.18	1.96(0.05)	Significant At 0.05
Post test	52	37.96	11.33		2.58(0.01)	

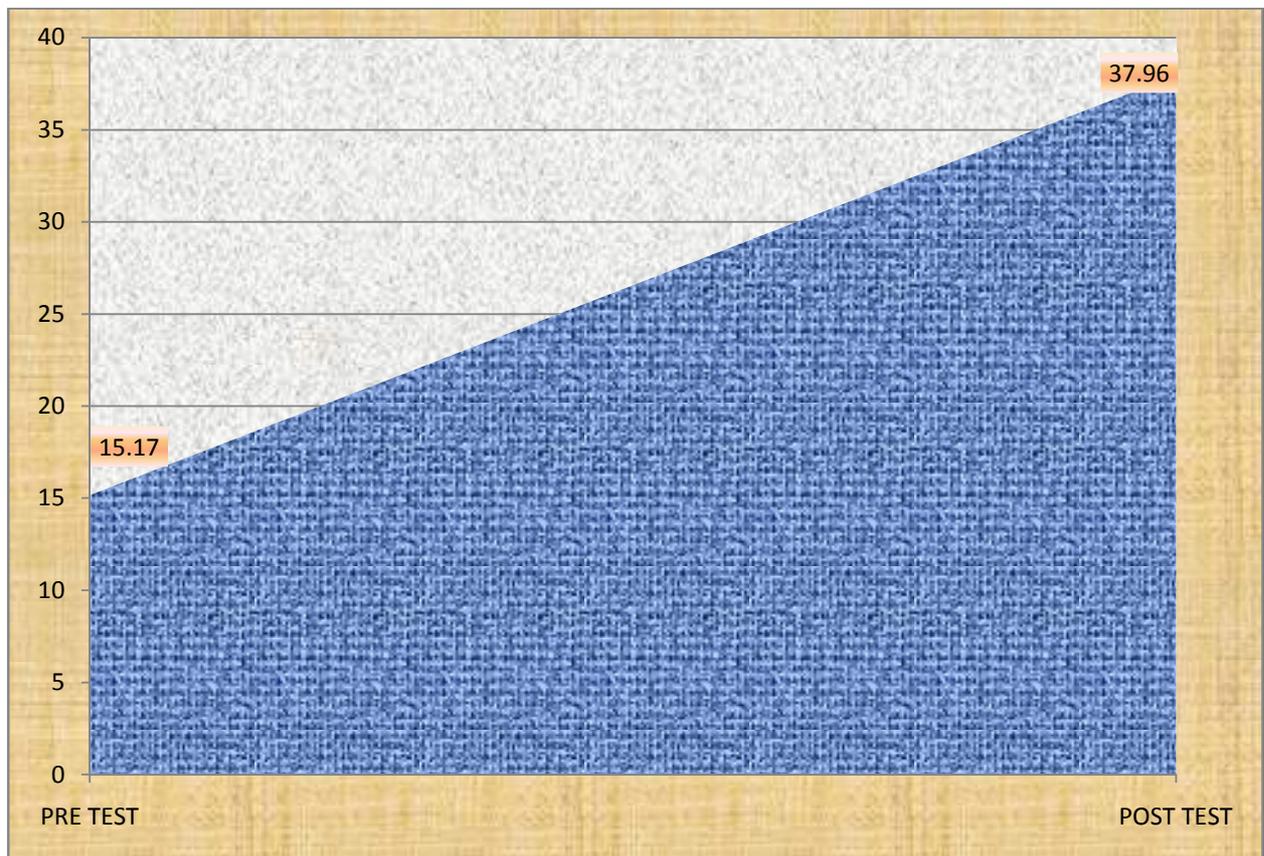
Table-4.3 above gives a comparative picture of the performance of std. VIIIth students on the component of Flexibility on creativity test.

Looking at Table-4.3 it can be seen that the mean score of the std. VIIIth students in Pre-test performance of flexibility is 15.17 and post test performance of fluency is 05.65 the mean score of post-test is higher than the mean score of the pre-test. This indicates that there is a significant difference in the performance of the post-test as compared with pre-test in flexibility. It is evident from table 4.3 that the calculated 't'-value of 02.18 is greater than the table values at 0.05 level.

So, the null Hypotheses that There will be no significant difference in the mean flexibility score of the Pre-test and post-test is rejected. So the creativity programme is effective in developing flexibility.

Graph-C

Significance of difference in the mean flexibility score of the Pre-test and post test



HO4: There will be no significant difference in the mean originality score of the Pre test and post-test.

To verify significant difference between mean score of originality of the Pre test and post test were collected and interpreted as under table : 4.4

Table 4.4

Significance of difference in the mean originality score of the Pre-test and post test

originality score	No. of students	Mean	Standard Deviation	t-value	t- table	Significance
Pre test	52	05.73	03.71	12.66	1.96(0.05)	Significant At 0.01
Post test	52	52.19	26.21		2.58(0.01)	

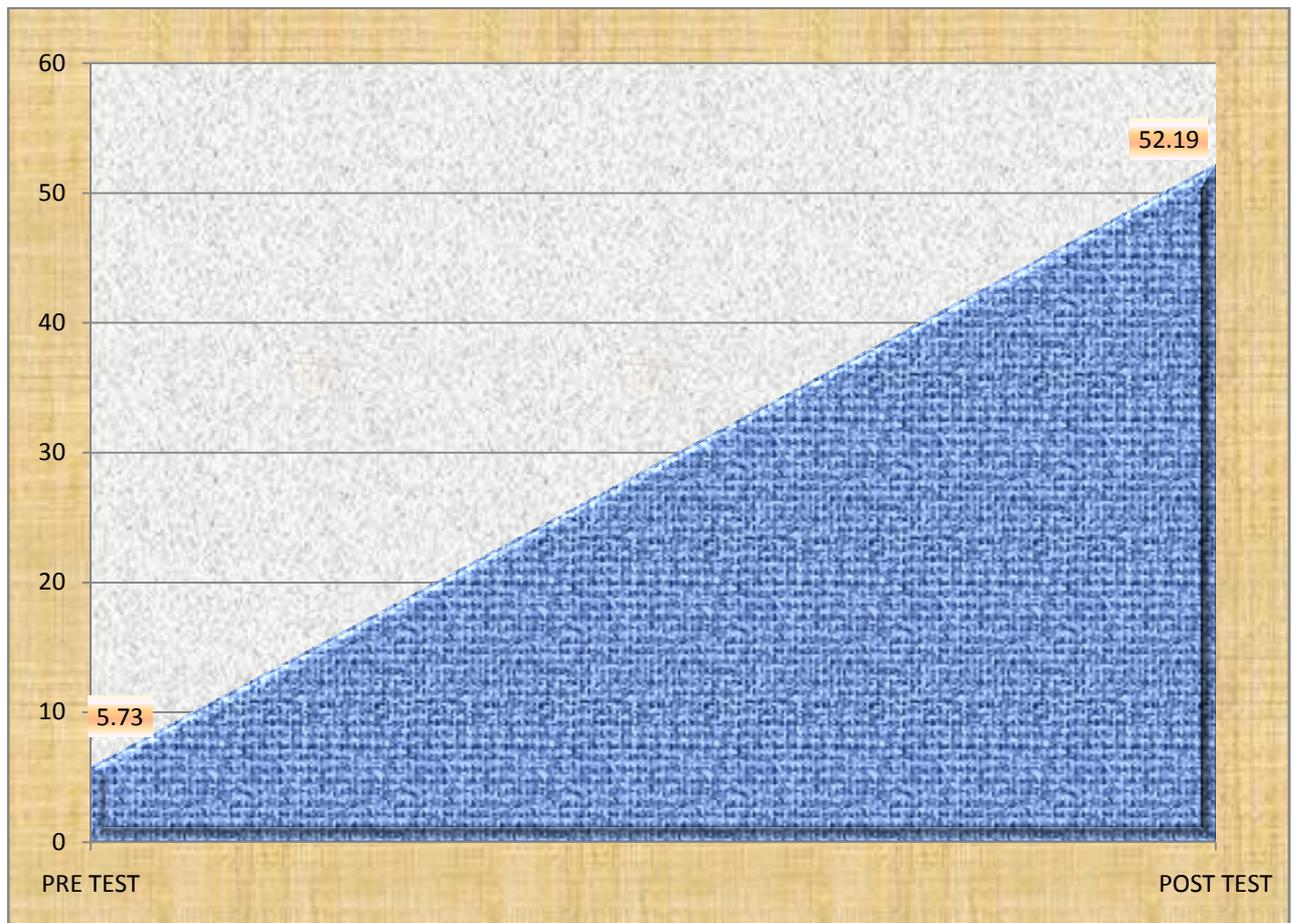
Table-4.4 above gives a comparative picture of the performance of std. VIIIth students on the component of originality on creativity test.

Looking at Table-4.4 it can be seen that the mean score of the std. VIIIth students in Pre-test performance of originality is 05.73 and post test performance of fluency is 03.71 the mean score of post-test is higher than the mean score of the pre-test. This indicates that there is a significant difference in the performance of the post-test as compared with pre-test in originality. It is evident from table 4.4 that the calculated 't'-value of 12.66 is greater than the table values at 0.01 level.

So, the null Hypotheses that There will be no significant difference in the mean originality score of the Pre-test and post-test is rejected. So the creativity programme is effective in developing originality.

Graph-D

Significance of difference in the mean originality score of the Pre-test and post test



HO5: There will not be any differential impact of the creativity programme on the Upper primary School Students of different gender in terms of mean Creativity Score.

To verify significant difference between mean score of originality of the Pre test and post test were collected and interpreted as under table : 4.5

Table 4.5

Significance of difference in the mean creativity score of boys and girls students of std. VIII

Creativity Score	Creativity test	No. of students	Mean	Standard Deviation	t-value	t- table	Significance
Boys	Pre test	29	49.65	19.41	12.81	1.96(0.05)	Significant At 0.01
	Post test		155.27	57.22			
Girls	Pre test	23	38.13	13.85	14.37	2.58(0.01)	
	Post test		142.95	50.75			

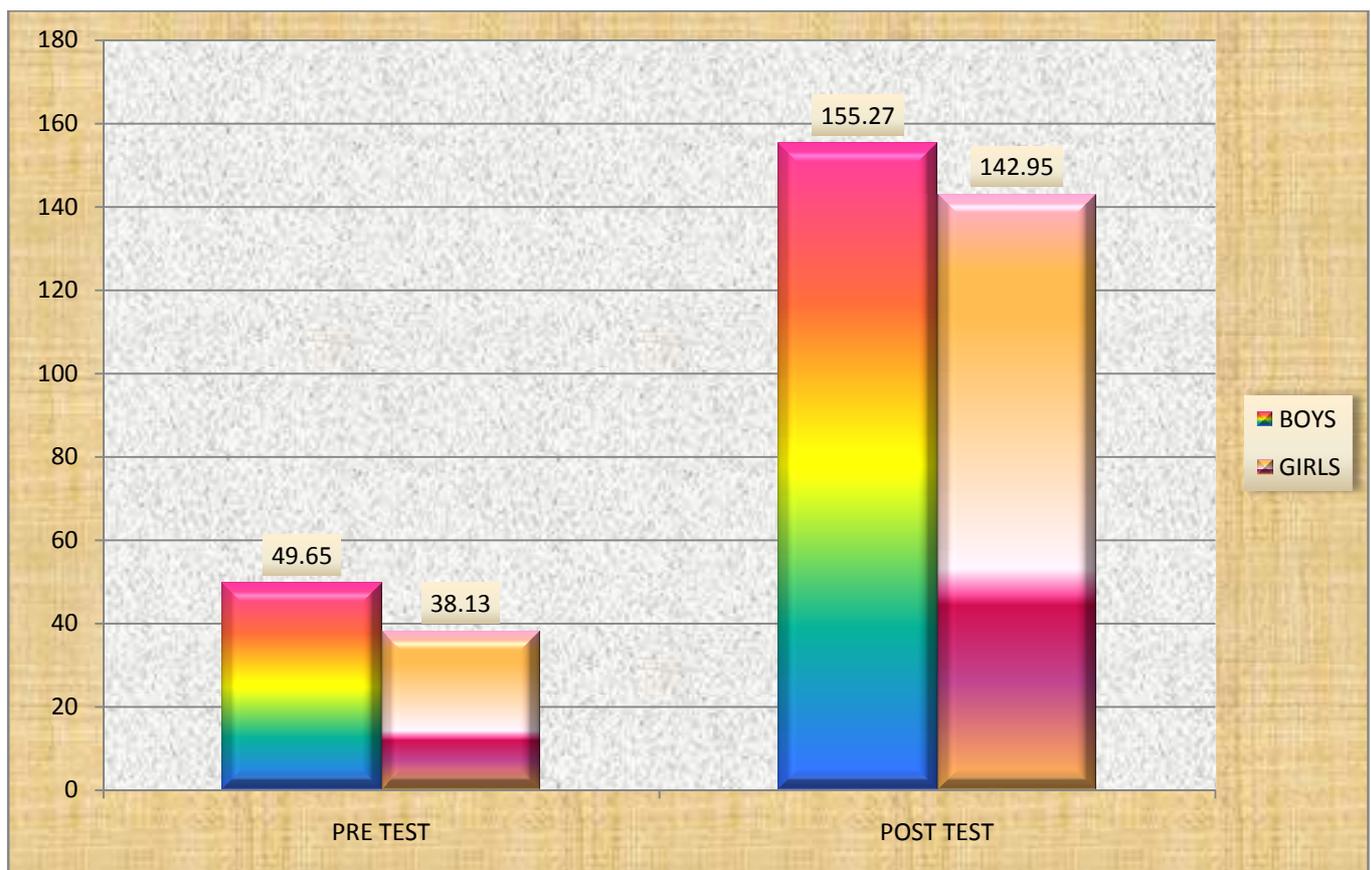
Table-4.5 above gives a comparative picture of the performance of std. VIIIth boys and girls students on the creativity on creativity test.

Looking at Table-4.5 it can be seen that the mean score of the std. VIIIth boys students in Pre-test performance of creativity is 49.65 and post test performance of creativity is 155.27 the mean score of post-test is higher than the mean score of the pre-test in creativity. Also can be seen that the mean score of the std. VIIIth girls students in Pre-test performance of creativity is 38.13 and post test performance of creativity is 142.95 the mean score of post-test is higher than the mean score of the pre-test in creativity. This indicates that there is a significant difference in the performance of creativity score in Pre test and post test of the boy's creativity as compared with girl's creativity . It is evident from table 4.5 that the calculated 't'-value of 12.81 and 14.37 is greater than the table values at 0.01 level.

So, the null Hypotheses that There will not be any differential impact of the creativity programme on the Upper primary School Students of different gender in terms of mean Creativity Score is rejected. So that Significance of difference in the mean creativity score of boys and girls students of std. VIII

Graph-E

Significance of difference in the mean creativity score of boys and girls students of std. VIII



Chapter-V

Summary, Finding, Conclusion, Discussion and Suggestions

5.0 Introduction

Looking to the above reality, even in the present stage and increasing awareness about the importance and the Major thrust on the ways and means of creativity development, the present study has been conducted. Also, the present investigation has focused on preparation of a creativity programme for the std. VIII students at higher primary level. So as to meet the demand for a creative children, who, in turn can identify, nurture and develop the creativity of the students on a large scale in future. Simultaneously, that would be helpful in improving the quality of primary Education, too.

In the light of the above, the present investigation has focused on studying the effectiveness of the prepared creativity programme and the problem is entitled as:

5.1 STATEMENT OF THE PROBLEM :

5.2 EFFECTIVENESS OF A PROGRAMME FOR DEVELOPING CREATIVITY OF HIGHER PRIMARY STUDENTS

5.2 OBJECTIVES OF THE STUDY:

The study has been carried out with the following objectives:

1. To identify the creativity level of std-VIII school students.
2. To develop a creativity programme for std.VIII school students.
3. To study the effectiveness of creativity programme with respect to creativity components.

4. To study the effectiveness of creativity programme by comparing pre test and post test results of a single group.
5. To compare the effectiveness of creativity programme as observed in the results of boys and girls.
6. To study the development of creativity both in the case of the boys and the girls.

5.3 HYPOTHESES :

The objectives of the present study are achieved in terms of the following hypotheses:

HO1 : There will be no significant difference in the mean creativity score of the Pre test and post-test.

HO2 : There will be no significant difference in the mean fluency score of the Pre test and post-test.

HO3 : There will be no significant difference in the mean flexibility score of the Pre test and post-test.

HO4: There will be no significant difference in the mean originality score of the Pre test and post-test.

HO5: There will not be any differential impact of the creativity programme on the Upper primary School Students of different gender in terms of mean Creativity Score.

5.4 METHODOLOGY :

5.4.1 Experimental design and procedure

The present investigation was a '**one group Pre-test post-test design**'. The procedure of data collection for the present study was carried out in three phases, the detail of which have been described below:

Phase-I

During this phase, the creativity test was administered as a Pre-test to all the students of std. VIII to identify their creativity level in accordance with its components.

Phase-II

In this phase, the creativity programme was implemented to the students of std. VIII only, in terms of a treatment for total 21 hours, during 21 days as per the prepared schematic presentation.

Phase-III

During this phase and after completion of the treatment to the students of std. VIII, the same creativity test was administered as the post-test.

5.4.2 Sample

The sampling method used in the present investigation was purposive. The sample for the present study was Formed, from the population group of upper primary students.

5.4.3 Tools

The following tools were used in the present study:

(i) Baqur mehdi's verbal test of creativity to identify the creativity level of higher primary school students.

(ii) A creativity programme for std. VIII students, developed by the investigator.

5.4.4 Procedure for analysis of the data:

The data for the study were analyzed keeping the objectives of the study in mind. The 't'-test technique was applied to compare the creativity of the students in Pre-test and post-test and also between creativity of the boys and girls.

5.5 SUMMARY AND FINDINGS OF THE RESULTS :

The results of the present investigation with respect to five Hypotheses based on the objectives, are summarized below:

1. There existed significant difference between the mean creativity score of post-test and Pre-test. The relatively higher mean score of the post test indicated that the post-test was at higher level than the Pre-test with respect to the total creativity score.
2. There was significant difference between the mean fluency score of the post-test and Pre-test. The relatively higher mean score of the post-test showed that the post-test was stood higher than the Pre-test with respect to the fluency score.
3. There was significant difference between the mean flexibility score of the post-test and Pre-test. The relatively higher mean score of the post-test showed that the post-test was stood higher than the Pre-test with respect to the flexibility score.
4. There was significant difference between the mean originality score of the post-test and Pre-test. The relatively higher mean score of the post-

test showed that the post-test was stood higher than the Pre-test with respect to the originality score.

5. There was significant difference between the mean creativity score of the boys and girls. Post test and Pre test.
6. No differential impact of the creativity programme was found on mean creativity score of the std. VIII students of different gender category.
7. There existed no significant variation in mean creativity score of the std. VIII students in the post-test due to the interactions effect of gender category.

On the whole, it was concluded that the post-test reacted more favourably after the provided treatment in terms of a creativity programme. Thus, the creativity programme had a differential impact on one group.

5.6 conclusion:

On the basis of the summary of results, the following conclusion are arrived at :

- Having analysed all the data and its results, it is observed that by applying creativity programme on students, their creativity, fluency, flexibility, originality is increased. So the creativity programme is effective.
- The main effect of the treatment of a creativity programme, on std. VIII students was significant for the creativity and its components namely ; fluency, flexibility, originality respectively.
- There was significant difference in the mean creativity score of the std. VIII of different gender.

- The higher mean achievement through creativity programme. Naturally they turn out to be more fluent, flexible and original in the generation of ideas.

5.7 Discussion and Implications :

It is worth while to discuss the findings of the study and their implications for std. VIII and instructional setting. The discussion and implications of the findings are presented below :

CREATIVITY PROGRAMME AND THE CREATIVITY LEVEL OF STD. VIII STUDENTS.

The first finding of the study showed that the effect of the creativity programme on std. VIII was significant with respect to creativity and its components viz. fluency, flexibility and originality respectively. It directly supports one of the established facts by many researchers in the field of creativity during the last fifty years, that creativity is teachable, educable and can be developable through training. The table no. 5.1 shows the effect of creativity programme.

Table-5.1

Effects of the creativity programme on creativity and its components

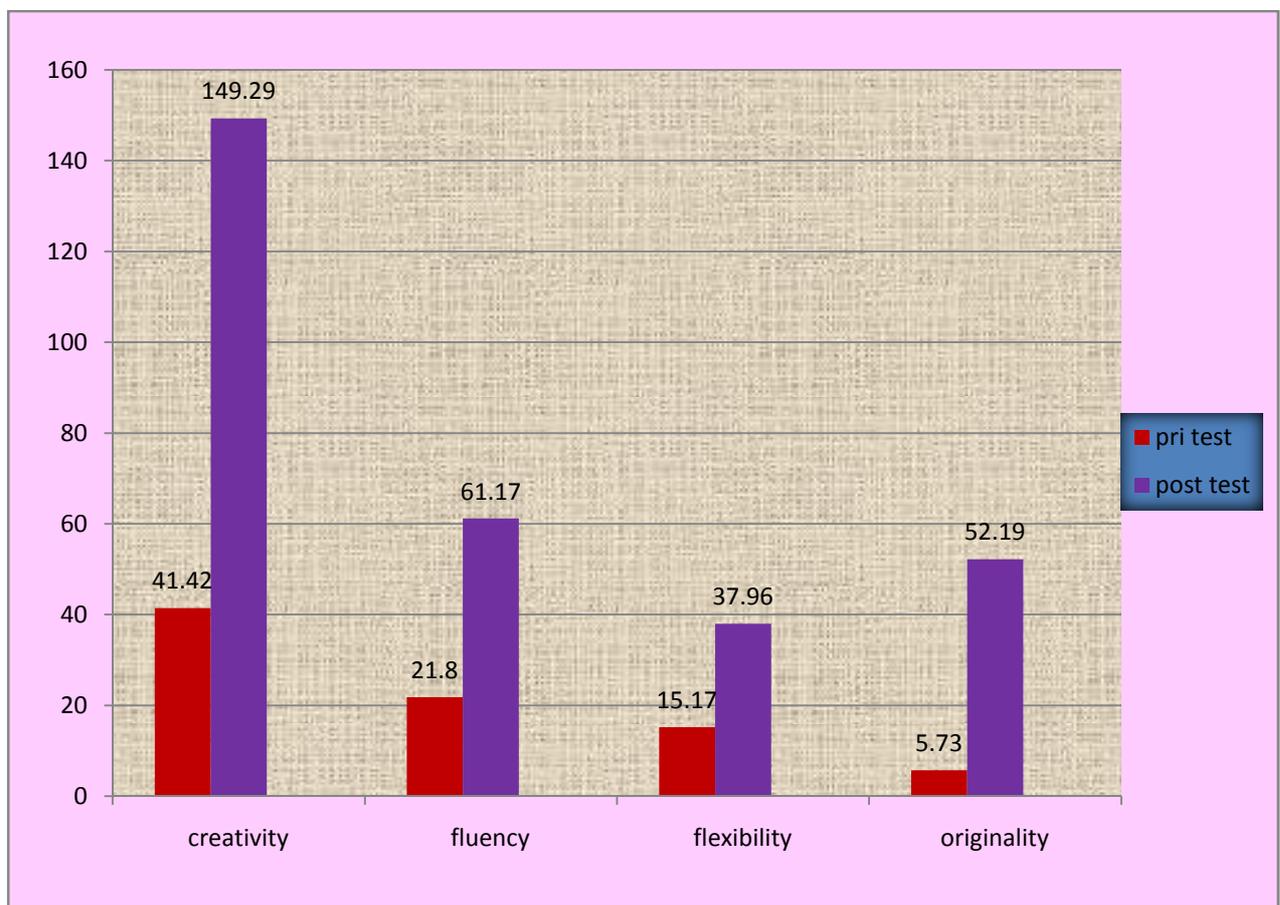
Scores on Pre test mean score		Scores on post test mean score	Difference
Total creativity	41.42	149.29	107.87
Fluency	21.80	61.17	39.37
Flexibility	15.17	37.96	22.79
originality	05.73	52.19	46.46

It can be observed from the table no. 5.1 that in case of post test, the difference between the mean Pre and post test's scores of total creativity, fluency, flexibility and originality were 107.87, 39.37, 22.79 and 46.46 respectively.

This shows that the creativity programme was effective in developing creativity and its components. While in case of the Pre test and post test's score of the total creativity and its components respectively. Thus, in the same way, the effectiveness of the creativity programme can also be explained with the help of graphical presentation.

Graph-H

Effects of the creativity programme on creativity and its components



It can be seen from the figure-5.1 that, there is a major difference between the mean Pre and post test's score of creativity and its components respectively. The little decrease observed in mean scores of creativity, fluency, flexibility and originality at post test phase, might be due to the absence of proper treatment. Also it was observed that many of the students of the std. VIII were not much interested during the post test session as the same test was administered once again. It can be observed from the figure-5.1 that there is a remarkable increase in mean score of creativity and its components at post test phase. This shows the positive impact of the creativity programme in raising the creativity level of the students of std. VIII. The reasons for observed remarkable increase at post test phase may be due to the following considerations.

- The creativity programme was based on all the present primary subjects and the curriculum of std. VIII.
- various activities of the creativity programme of the present study were related to various techniques, which have been proved effective for creativity development by many researchers.
- The total time duration for the implementation of the creativity programme was 22 hours, spread over 20 days.
- The creativity programme was implemented with the help of various mentors.
- Exercises under the different activities planned for the present creativity programme, offered a wide scope for divergent thinking.
- The activities of the creativity programme were interdisciplinary and have relevance with the instructional setting.
- The std. VIII could get proper guidance at any time regarding the activities and exercises, during the experimentation.
- The std. VIII students were motivated and provided with the supporting environment accordingly.

Pillay (1978), nair (1978), shah (1981), vora (1984), Gupta (1985), Singh (1985), Patel (1987), Amin (1988), Bhaskara (1981), tripathi and sukla (1990), patel (1993), shetty (1993). Sharma (1994), and thakar (1995) tried to study the effectiveness of creative thinking programmes, creative methods and techniques, divergent thinking programmes teaching strategies and instructional materials. They found that, their treatment was effective for the development of fluency, flexibility, originality, creativity, language creativity, mathematical creativity, scientific creativity etc. among the students. The present study has also arrived at the same conclusion. It has supported the major findings of the above mentioned studies.

With this attempt, the present study has also demonstrated the creativity oriented training for std. VIII students. Also, it has been proved that, this type of training is possible provided, if one desires to implement it.

During the course of investigations, the investigator feels that one of the ways of the making creative person (students), it would be necessary to introduce the topic of creativity in the curriculum as a part of the theory with the concept of creativity educational implications of creativity and the ways and means of developing creativity. But, this only is not enough.

With reference to the above discussed facts and after the completion of investigations under the study, the investigator has observed that the whole same development of creative personality could possible in terms of various aspects. This can be seen from the diagrammatic format. Shown in figure- 5.1



Figure-5.1

5.8 suggestions for further researches :

Looking to the results obtained, findings arrived at, and the experience gained in the course of the present investigation, some suggestions regarding further researches on creativity and innovations, in general are presented below :

1. The study should be replicated by taking other correlates like, caste, locality, personality and parental education.
2. The study should also be replicated to develop mathematical or scientific or language creativity.
3. Development of instructional materials for inservice teachers with a view to promote creativity in their students and study its effectiveness.
4. The study can be replicated on a large sample including PSTTS from adhyapan mandir for generalization of the conclusions.
5. To study the effectiveness of pre-service creative teacher training programmes through a naturalistic case study.
6. Preparation and try-out of the aesthetic creativity development programme for pre service teachers training covering music, dancing, sculpture etc.
7. The very school complex should be studied from the angle of creative atmosphere.

8. The four basic skills of listening and comprehension, speaking, reading and writing could be studied from the dimensions of creativity.
9. Use of multi-media as a specialized teaching techniques and to study its effectiveness in developing creativity.
10. An experimental investigation of the effects of selected teaching strategies/ curricular activities/ teaching- learning materials on the development of creativity.
11. To study the usefulness of stories, fiction local-specific reading materials, interesting puzzles, divergent practical experiments, interdisciplinary illustrations and graphics and child-centred activities etc. included in the text books of upper primary school subjects for building creativity.
12. To study the usefulness of identifying the creativity level of pre service teacher trainees at secondary level as one of the admission criteria.

These and many other areas of creativity could be studied and the country's research has to pass mile stones in order to make education progressive and it's students, excellent qualitative and productive.

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11. ગણિત ગમ્મત, નવભારત સાહિત્ય મંદિર, અમદાવાદ.
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Appendices

Appendix-I

List of Experts consulted

Experts for the construction of creativity programme

- Dr. Mahendra chotaliya
Children University, Gandhinagar
- Dr.K.S. Likhiya
Reader, dept. of Education,
S.P. University, V.V.Nagar
- Dr. M.K. Yagnik
Reader, dept. of Education,
S.P. University, V.V.Nagar
- Dr. V.K. Gelat
Shree sarvajanik college of Education,
Godhra

Appendix-II

Mehdi's test of creative thinking (Gujarati version)

ડો. બાકર મહેંદી

પ્રોફેસર ઓફ એજ્યુકેશન,

એન.સી.ઇ.આર.ટી.

નવી દિલ્હી-૧૧૦૦૧૬

નામ:-

જન્મ તારીખ

--- જાતિ- ઉંમર-----

વર્ગ -----

-----સંસ્થા/શાળા-----

-----પિતાનું નામ-----

ધરનું સરનામું-----

સામાન્ય સૂચનાઓ

આ પુસ્તિકામાં કેટલીક રસપ્રદ પ્રવૃત્તિઓ આપેલી છે. જેના ઉકેલ માટે તમારે તમારી વૈચારિક શક્તિ અને કલ્પનાશક્તિનો ઉપયોગ કરવો પડશે. અહીં આપેલી પરિસ્થિતિના સંદર્ભમાં તમે કેટલું ઝડપથી, કાલ્પનિક રીતે અને નવીનતાપૂર્ણ વિચારી શકો છો, તે જોવાનો હેતુ છે. દરેક પ્રવૃત્તિ વિશે કાળજીપૂર્વક વાંચો અને તેનો જવાબ આપવા માટે તમારી સર્વોત્તમ વિચારશક્તિનો ઉપયોગ કરો. તમારા જવાબો માતૃભાષામાં લખો. દરેક પ્રવૃત્તિ અંતર્ગત આપેલી જગ્યામાં જવાબો સંક્ષિપ્તમાં અને સ્પષ્ટ રીતે આપવાના રહેશે. તમારા દરેક જવાબને ક્રમ નંબર આપો. આપેલી દરેક પ્રવૃત્તિનો સાચો કે ખોટો જવાબ હોતો નથી તેથી તમારી કલ્પનાશક્તિના આધારે શક્ય તેટલા વધુ જવાબો તમે વિચારી શકો.

પુસ્તિકામાં આપેલી ચાર પ્રવૃત્તિઓને ચોક્કસ સમય ફાળવવામાં આવ્યો છે. આ સમયમર્યાદામાં તમારી ઝડપ અનુસાર દરેક પ્રવૃત્તિના કાર્યો પૂર્ણ કરવાના છે. જ્યારે તમે એક પ્રવૃત્તિ પૂર્ણ કરી લો, ત્યારે બીજી પ્રવૃત્તિ લો. જરૂરી લાગે ત્યારે અગાઉની પ્રવૃત્તિના જવાબમાં કઈક ઉમેરો કરી શકાય, પરંતુ યાદ રહે કે, સૂચના મળ્યા વિના અને એક પ્રવૃત્તિ પૂર્ણ ન થાય તે પહેલા આગળ કાર્ય કરશો નહીં.

અંતમાં તમને વધારાની પાંચ મિનિટ આપવામાં આવશે, તે દરમિયાન તમે કોઈપણ પ્રવૃત્તિના જવાબમાં જરૂરી ઉમેરો કરી શકશો.

કોઈપણ પ્રવૃત્તિ અધૂરી છોડશો નહીં.

પ્રવૃત્તિ-૧ તો શું થાય, જો ...

સૂચના- ૧. અહીં અને પછીના પણ ઉપર તમને એવી કેટલીક પરિસ્થિતિઓ જણાવવામાં આવી છે, જે તમારી સમક્ષ સર્જવાની કોઈ જ શક્યતાઓ નથી. તેમ છતાં,

તમારે વિચારવાનું છે કે જો આવી પરિસ્થિતિ તમારી સામે ખરેખર ઊભી થાય તો શું થાય.

૨. તમારા મગજમાં ઉદ્ભવતા શક્ય તેટલા વધુ વિચારો રજૂ કરો, પરંતુ શક્ય તેટલા નવીનતમ વિચારો દર્શાવો. એવા વિચારો, કે જે સર્વશ્રેષ્ઠ હોય અને અન્ય કોઈએ કદી વિચાર્યા ન હોય એવા વિચારો રજૂ કરો. તમારા વિચારો આપેલી જગ્યામાં લખો.

૩. આ પ્રવૃત્તિ માટે તમને ૧૫ મિનિટ આપવામાં આવશે. દર પાંચ મિનિટ પછી આપણે જાણ કરવામાં આવશે. જેથી તમે પ્રવૃત્તિમાંના આગળના કાર્યનો જવાબ આપી શકો.

તમારે શું કાર્ય કરવાનું છે તે જાણવા નીચે આપેલા ઉદાહરણોનો અભ્યાસ કરો.

ઉદા.-જો પક્ષીઓ અને પ્રાણીઓ માનવીની જેમ બોલવા લાગે તો શું થાય ?

જવાબ- ૧. વિશ્વ એક જુદા જ પ્રકારના સમાજમાં બદલાઈ જાય.

૨. પ્રાણીઓમાંથી નવા નેતા તૈયાર થશે.

૩. શક્ય છે કે એક ગધેડો આપણો નેતા બને.

૪. શક્ય છે કે તે આપણાં વડાપ્રધાન બને.

૫. માનવી કદાચ તેના પ્રાણી મિત્રોને પોતાની ખાનગી વાતો જણાવે. વગેરે...

૧. જો માનવી પક્ષીઓની માફક ઉડવા લાગે તો શું થાય ?

૨. જો તમારી શાળા પૈસાંની મદદથી હરીફરી શકે તેમ હોય, તો શું થાય ?

૩. જો માનવીને કોઈપણ ખોરાક લેવાની જરૂર જ ના પડે, તો શું થાય ?

પ્રવૃત્તિ-૨. વસ્તુઓના નવીનતમ ઉપયોગો

સૂચના-૧ અહીં તમને ચોક્કસ વસ્તુઓના નામ આપવામાં આવ્યા છે. જેનો ઘણી જુદી જુદી રીતે ઉપયોગ થઈ શકે.

૨ શક્ય હોય તેટલા વધારે ઉપયોગો લખો, પરંતુ એવા ઉપયોગો વિચારો કે જે નવીન હોય. અર્થાત એવા કે જે અન્ય કોઈ વિચારી ના શકે તેવું તમને લાગતું હોય.

૩ આ પ્રવૃત્તિ માટે તમને ૧૨ મિનિટ આપવામાં આવશે. દર ચાર મિનિટ પછી આપને જાણ કરવામાં આવશે, જેથી તમે પ્રવૃત્તિનું આગળનું કાર્ય કરી શકો.

નીચે આપેલા ઉદા. પરથી તમારે શું કરવાનું છે, તે અંગે સ્પષ્ટ ખ્યાલ આવશે.

ઉદા. દૈનિક સમાચારપત્ર

ઉપયોગો- ૧. સમાચાર વાંચવા માટે

૨. કાગળનાં રમકડાં બનાવવા માટે

૩. સૂર્યપ્રકાશ સામે રક્ષણ મેળવવા માટે

૪. કોઈ વસ્તુઓ ફરતે વીંટવા માટે

૫. ગંદી જગ્યા ઢાંકવા માટે

૧. પત્થરનો નાનો ટૂકડો

૨. લાકડાંની સળી

૩. પાણી

પ્રવૃત્તિ-૩. સમાનતા

સૂચના-૧ અહીં તમને કેટલીક શબ્દોની જોડી આપવામાં આવી છે. જે ઘણી જુદી જુદી રીતે એકબીજા સાથે સંબંધિત છે. તમારે વિચારવાનું છે કે કેટલી જુદી જુદી તથા નવી રીતે તેઓ સંબંધિત છે.

૨. શક્ય હોય તેટલા સંબંધો લખો, પરંતુ નવીનતાપૂર્ણ સંબંધો વિચારીને લખવાનો પ્રયત્ન કરો. અન્ય કોઈએ વિચાર્યું ન હોય તેવું તમને લાગે તેવા વિચારો દર્શાવો.

૩. આ પ્રવૃત્તિ માટે તમને ૧૫ મિનિટ આપવામાં આવશે. દર પાંચ મિનિટ પછી તમને જાણ કરવામાં આવશે, જેથી તમે પ્રવૃત્તિનું આગળનું કાર્ય કરી શકો.

નીચે આપેલા ઉદા. પરથી તમારે શું કરવાનું છે, તે અંગે સ્પષ્ટ ખ્યાલ આવશે.

ઉદા. માણસ અને પ્રાણી

સમાનતા- ૧. બંનેમાં જીવન હોય છે.

૨. બંનેને ખોરાક અને પાણીની જરૂર પડે છે.

૩. બંને માંદા પડે છે.

૪. બંને દુશ્મનથી ગભરાય છે.

૫. બંને ગરમી અને ઠંડીની લાગણી અનુભવી શકે છે. વગેરે...

૧. વૃક્ષ અને ઘર

૨. ખુરશી અને સીડી

૩. હવા અને પાણી

પ્રવૃત્તિ-૪ વસ્તુઓને વધારે રસપ્રદ અને ઉપયોગી બનાવવી.

સૂચના- ઘોડાનું એક સાદું મોડેલ(નમૂનો) વિચારો. આ એક સાદા નમૂનાને બાળકને રમવા યોગ્ય, રસપ્રદ અને નવીનતમ બનાવવા તમે તેમાં શું ફેરફાર કરી શકો, એ અંગે કાલ્પનિક રીતે તમારે વિચારવાનું છે. બાળક માટે તેને આકર્ષક અને રસપ્રદ બનાવવા તેમાં ગમે તેટલા નવા ભાગો ઉમેરવા અંગે તમે વિચારી શકો. આ નવા ભાગોની કિંમત વિશે ચિંતા કરશો નહીં. માત્ર આ રમકડાનું મોડેલ(નમૂનો) બાળક માટે આકર્ષક અને રસપ્રદ બનાવવા અંગે જ વિચાર કરો.

નીચે આપેલી જગ્યામાં તમારા મગજમાં આવતા બધાં જ વિચારોને ક્રમબદ્ધ રીતે લખો. આ કાર્ય માટે તમને ૬ મિનિટ આપવામાં આવશે.

Appendix-III

The creativity programme for std.VIII

CREATIVITY PROGRAMME

રચયિતા- પ્રા. જાગૃતિબેન જે. પરમાર

શ્રી સાર્વજનિક કોલેજ ઓફ એજ્યુકેશન,

ગોધરા. જિલ્લો- પંચમહાલ

પ્રવૃત્તિ ક્રમાંક -૧. “શબ્દ રમત”

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-10 મિનિટ}

૧. “યશોજ્જવલ ” શબ્દમાં આવતા અક્ષરોનો ઉપયોગ કરીને શક્ય તેટલા અર્થપૂર્ણ શબ્દો બનાવો.
૨. આપેલા કોષ્ટકોમાંના અક્ષરોના ઉપયોગ વડે શક્ય તેટલા વધારે શબ્દો બનાવો આડી, ઊભી, ત્રાંસી કોઈપણ રીતે શબ્દ બનાવી શકાય.

ગ	સ	તિ	નિ	બ	વ	ર્ગ
લ	ડો	ભા	વે	રા	નિ	ક્ષ
ર	ગ	લે	દ	શી	ગુ	જા
શ	ચ	રી	પ	જં	તુ	ઠ
જ	ભું	લા	ગી	ના	ઋ	થ
ગૃ	બો	જ્ઞા	ર્વ	ઉ	ક	તિ
જ્જ	ચા	તુ	ન	સ્વ	ણ	ત

❖ પ્રવૃત્તિ ક્રમાંક-૨. “ભાષા પ્રવાહિતા”

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-20 મિનિટ}

૧. નીચે આપેલા ઉદાહરણોનો અભ્યાસ કરીને ગુજરાતી ભાષાના શક્ય એટલા એવા શબ્દોની યાદી બનાવો કે જેને આગળથી કે પાછળથી વાચીએ, પણ શબ્દ તો તેનો તે જ રહે.

ઉદા.- નમન , મામા ,તરત ,મલમ ...

૨. નીચે દર્શાવેલા શબ્દ પર આધારિત શક્ય તેટલા વધુ પ્રેરણાદાયક સુવિચારો બનાવો.

ઉદા.- *વિધ્યા= *વિધ્યા વિનયથી શોભે છે. * વિધ્યા વિનાનો માણસ પશુ સમાન છે.

*મિત્ર *અનુભવ *વાણી

૩. અંગ્રેજી ભાષામાં શક્ય તેટલા એવા શબ્દો બનાવો જેનો અંતિમ ઉચ્ચારણ ‘ટ’ આવે.

ઉદા.-cat, bat, net, fat...

૪. ગુજરાતી ભાષામાં “વાળવું” શબ્દનો ઉપયોગ કરીને શક્ય તેટલા વિધાનો બનાવો.

ઉદા. - * તાર વાળવો, *કચરો વાળવો...

❖ પ્રવૃત્તિ ક્રમાંક-૩. “સ્પેલિંગ ગેઇમ”

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-10 મિનિટ}

૧. “ABAVEMAN FEASNOTEOONTHEEATH” – આ વાક્યમાં એવી રીતે ૬ યોગ્ય જગ્યાએ R મૂકો અને અક્ષરો છૂટા પડી અર્થપૂર્ણ વાક્ય બનાવો.

૨. “HEREIN”-માં છુપાયેલા શક્ય એટલા અર્થપૂર્ણ અંગ્રેજી શબ્દો બનાવો.

૩. નીચેના અક્ષરોને ઊલટસૂલટ કરી અર્થપૂર્ણ શબ્દો બનાવો.

RAIL, ANGEL, FELT, QUITE, SACRED, TRIED, RACE

૪. નીચે આપેલા સ્વરથી શરૂ થતાં હોય તેવા સ્પેલિંગવાળા અંગ્રેજી ભાષાના શક્ય તેટલા શબ્દો બનાવો.

A, E, I, O, U

❖ પ્રવૃત્તિ ક્રમાંક -૪. "ગાણિતિક ખ્યાલ"

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-10 મિનિટ}

સૂચના:- નીચે આપેલી પ્રવૃત્તિઓ અંતર્ગત વિગતો તથા ઉદાહરણોનો અભ્યાસ કરીને ક્રમ નંબર જાળવીને તમારાં કાર્યની નોંધ કરો.

૧. ગણિતમાં પ્રાકૃતિક સંખ્યા '૧' (એક) એકમમાં આવે તે રીતે શક્ય તેટલી વધુ સંખ્યા રચો.

જેમકે, 1, 11, 21, 101...

૨. દશકના સ્થાન પર "૦" મળે તેવી શક્ય તેટલી વધુ સંખ્યાઓ રચો.

જેમકે, 09, 501, 101...

૩. ત્રણ અંકની આવી બીજી સંખ્યાઓ પણ શોધી કાઢો કે જેના ત્રણેય અંકોનો સરવાળો ૧૨ થાય

૪. "ગુણાકારએ પુનરાવર્તિત સરવાળો છે" વિધાનની સમજૂતી માટેના શક્ય એટલા ઉદાહરણો આપો.

જેમકે, $2 \times 2 = 4(2+2=4)$, $2 \times 3 = 6(2+2+2=6)$...

૫. ૧ થી ૧૦૦ સુધી લખીએ તો એમાં ૯(નવ)કેટલી વખત લખવાના થાય? શક્ય તેટલી વધુ સંખ્યાની યાદી બનાવો.

❖ પ્રવૃત્તિ ક્રમાંક -૫. "સાંખ્યિક રમત"

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-15 મિનિટ}

સૂચના:-નીચે આપેલી પ્રવૃત્તિઓ અંતર્ગત વિગતોનો અભ્યાસ કરીને તે મુજબ કાર્ય કરો અને તેની નોંધ કરો.

૧. અંકો ૧, ૨ અને ૩ નો ઉપયોગ કરી શક્ય તેટલી સંખ્યા બનાવો.

૨. ત્રણ આંકડાની બનેલી શક્ય તેટલી એવી સંખ્યાઓ લખો કે જેમને ઉંઘેથી વાચીએ તો પણ તેની તે જ વંચાય અને ત્રણેય સંખ્યાનો સરવાળો '૯'(નવ) થાય.

દા.ત-૧૭૧

૩. એવી સંખ્યાઓની શક્ય તેટલી વધુ જોડીઓ દર્શાવો કે જેમનો ગુણાકાર કરવાથી જવાબ '૧'(એક)મળે.

❖ પ્રવૃત્તિ ક્રમાંક -૬. "ભાષા વિહાર"

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-50 મિનિટ}

સૂચના : નીચે આપેલી પ્રવૃત્તિઓ અંતર્ગત વિગતો અને ઉદાહરણોનો અભ્યાસ કરી તે મુજબ કાર્ય કરી નોંધ કરો.

૧. "લાકડી"ના શક્ય તેટલા ઉપયોગો જણાવો.

ઉદા.- ઢોર હાંકવા, ઉપરથી કોઈ વસ્તુ નીચે પાડવા, ...

૨. નીચે આપેલા ઉદાહરણોનો અભ્યાસ કરી દૈનિક જીવનના શક્ય એટલા વધારે શબ્દો માટે રમૂજ પડે તેવી ટૂંકી વ્યાખ્યા આપો.

ઉદા.- * ફૂકડો = ગામનું ઘડિયાળ *જેલ = ભાડા વગરનું ઘર

૩. શક્ય તેટલી વધારે "વિરોધી કહેવતો" દર્શાવો.

ઉદા.-પારકી આશા સદા નિરાશ. x વાડ વગર વેલો ન ચડે.

૪. હસ્વ 'ઇ' નો દીર્ઘ 'ઈ' તથા હસ્વ 'ઉ' નો દીર્ઘ 'ઉ' કરવાથી અર્થ બદલાતો હોય તેવા શબ્દોની શક્ય તેટલી વધુ જોડીઓ બનાવો.

ઉદા.- *દિન - દીન *વધુ - વધૂ

૫. અહીં નીચે લખેલા શબ્દો વાંચતાં જ તમારા મનમાં જે ભાવ જાગે તે તરત લખો, સમય મર્યાદામાં શક્ય એટલા વધારે પ્રતિચારો લખો.

ઉદા.- *શિક્ષક-માળી, વેદીયો, કડક, માયાળુ,...

* ફૂલ -સુંદરતા,

કોમળતા,સુગંધિતતા,વેણી,હાર,...

૧. માતા ૨. પરીક્ષા ૩.પિતા

❖ પ્રવૃત્તિ ક્રમાંક-૭. “વસ્તુઓના નવીનતમ ઉપયોગો”

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-1 કલાક}

સૂચના: અહીં તમને કેટલીક ચોક્કસ વસ્તુઓના નામ આપવામાં આવ્યા છે જેમનો સામાન્ય કરતાં ઘણી જુદી રીતે ઉપયોગ કરી શકાય. તમે વિચારી શકતા હોય તેટલા વધુ અને નવીનતમ ઉપયોગો ક્રમ નંબર સહિત દર્શાવો.

- | | | |
|---------|-----------------------|--------------------------|
| 1. પાણી | 2. રંગીન કાગળનો ટુકડો | 3. દિવાસળીનું ખાલી ખોખું |
| 4. દોરી | 5. છીપલા | 6. નોટનું પૂઠું |

જેમકે,- માટી - *રમકડાં બનાવવા માટે, *આયુર્વેદિક ઉપચારમાં, *કુંડાને રંગવા માટે...

❖ પ્રવૃત્તિ ક્રમાંક-૮. “સમાનતા”

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-1કલાક,20 મિનિટ}

અહીં તમને કેટલાક શબ્દોની જોડીઓ આપવામાં આવી છે જે એક બીજા સાથે ઘણી સંબંધિત છે. તમારે વિચારવાનું છે કે તેઓ કેટલી જુદી રીતે અને નવી રીતે એકબીજા સાથે સંબંધિત છે. શક્ય હોય તેટલા વધુ નવીનતાપૂર્ણ અને સમાનતાના ગુણો ધરાવતા હોય તેવા વિચારો ક્રમાનુસાર દર્શાવો.

ઉદા.- માનવી અને પશુ

*બંનેમાં જીવન છે. *બંનેને ખોરાક-પાણીની જરૂરિયાત છે. *બંને પોતાના રહેવા માટે ઘર બનાવે છે.

*બંનેને રોગ થઈ શકે છે. *બંનેને દુશ્મનોનો ડર રહે છે.

- | | | |
|--------------------|--------------------------|---------------------|
| 1. પક્ષી અને વિમાન | 2. સંતરું અને લીંબુ | 3. બાળક અને વૃદ્ધ |
| 4. કલમ અને તલવાર | 5. શિક્ષક અને કુંભાર | 6. નેતા અને અભિનેતા |
| 7. ખાંડ અને મીઠું | 8. પુસ્તક અને સમાચારપત્ર | |

{સમય-1 કલાક,20 મિનિટ}

નીચે આપેલા અપૂર્ણ વાક્યોને તમારી કલ્પનાશક્તિથી શક્ય તેટલા વધુ વિચારોથી પૂર્ણ કરો.ઉત્તર નાનાં વાક્યોમાં લખશો તો સમયમર્યાદામાં વધુ વાક્યો લખી શકશો.

{ ઉદા. - જો પૃથ્વી પરથી ગુરુત્વાકર્ષણબળ ગૂમ થઈ જાય તો...

- *તો આપણે પૃથ્વી પર ઊભા ન રહી શકત.
- *તો વૃક્ષ પરની વસ્તુ નીચે ન આવતી હોત.
- *તો દરિયામાં ભરતી ઓટ ન થાત. }

૧. જો હું પતંગિયાની જેમ ઊડી શકતો હોત તો...

૨. જો સૂરજ ઉગે જ નહીં તો...

૩. જો વૃક્ષો બોલતાં અને ચાલતાં હોય તો ...

૪. જો પૃથ્વી પર પાણી જ ના હોત તો ...

૫. જો પૃથ્વી પર કોઈપણ વનસ્પતિ જ ઊગી શકતી ન હોત તો...

૬. જો મનુષ્યને ભૂખ જ ન લાગતી હોત તો ..

૭. જો પૈડાની શોધ જ ન થઈ હોત તો ...

૮. જો ઈશ્વર દ્રશ્યમાન હોત તો ...

1. તમે લખવા માટે પેન તથા પેન્સિલ વાપરતા હશો.આ દરમિયાન તમને તેની રચનાની બાબતમાં કે કાર્યક્ષમતાની બાબતમાં કોઈ મર્યાદા કે ખામી અનુભવાતી હશે. તમે તેને દૂર કરીને વધારે અસરકારક બનાવવા માટે તેમાં શું-શું ફેરફારો કરશો કે જેથી પેન તથા

પેન્સિલ વાપરવામાં મજા આવી શકે. તમારા અન્ય કોઈ સાથીમિત્રો ન વિચારી શકે તેવા અને તેટલા વિચારો અન્ય કોઈપણ બાબતનો વિચાર કર્યા વિના શક્ય તેટલી ઝડપથી નોંધો. આ કાર્ય કરવા માટે તમને 15 મિનિટનો સમય આપવામાં આવશે.

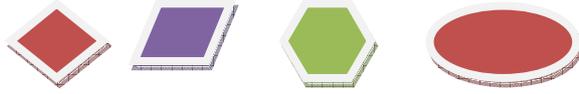
❖ પ્રવૃત્તિ ક્રમાંક -૧૧. “આકારોની રમત”

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-1 કલાક}

- જરૂરી સામગ્રી : કાર્ડ પેપર / પૂઠા,કાતર/કટર,માપપટ્ટી,પેન્સિલ

૧. તમને આપવામાં આવેલ કાર્ડ / પૂઠામાંથી નીચે દર્શાવ્યા મુજબના આકારો કટિંગ કરી તે આકારોને કેટલાંક અનિયમિત ભાગોમાં કાપીને ઢૂકડા કરી નાખો. હવે આ ભાગોને જુદી જુદી રીતે ગોઠવીને શક્ય તેટલા નવા પ્રકારના ભૌમિતિક આકારો બનાવો અને તેની નોંધ કરો.



❖ પ્રવૃત્તિ ક્રમાંક-૧૨. “વૈચારિક પ્રવાહ”

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-30 મિનિટ}

સૂચના : નીચે આપેલી પ્રવૃત્તિઓ અંતર્ગત વિગતોનો અભ્યાસ કરીને તે માટે આપના ચિંતનાત્મક વિચારો રજૂ કરો.

૧. નીચે આપેલી કેટલીક જૂની કહેવતોને આજની વર્તમાન વિચારસરણી અને જરૂરિયાત પ્રમાણે નવું સ્વરૂપ આપી રમૂજદ્રષ્ટિથી કલાત્મક સ્વરૂપ આપો.

- * કરણી તેવી ભરણી
- * ચડ જા બેટા શૂળી પર
- * નાનો નાનો તોય રાઈનો દાણો
- * બાઈ બાઈ ચારણી

* ઠાકોર ગયાને ઠગ રહ્યા

૨. નીચે આપેલી પંક્તિઓનો અર્થવિસ્તાર કરો.

“વિશાળે જગવિસ્તારે નથી એક જ માનવી ,

પશુ છે પંખી છે પુષ્પો વનોની છે વનસ્પતિ”

૩. દુકાનની ચોકી કરતાં એક ચોકીદારે સવારમાં જઈને શેઠને કહ્યું કે, “શેઠ સાહેબ, રાત્રે મને એવું સપનું આવ્યું કે તમારી દુકાનની પાછળ એક ધનનો ચારુ દાટેલો છે.” એ સાંભળી શેઠે ચોકીદારને નોકરીમાઠી કાઢી મૂક્યો, કેમકે...

❖ પ્રવૃત્તિ ક્રમાંક-૧૩. “અલંકૃત વાક્યપૂર્તિ”

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-૩૦ મિનિટ}

સૂચના : તમારી કલ્પનાશક્તિનો ઉપયોગ કરીને નીચે દર્શાવેલા વાક્યને ઉપમાઓ વડે અલંકૃત કરીને પૂર્ણ કરો.

ઉદા.- કાશ્મીર એ જાણે કે ... *ધરતી પરનું સ્વર્ગ, *ઇન્દ્રલોક, *જન્મત,...

૧. તરબૂચએ જાણે કે ...

૨. નાના બાળકોએ જાણે કે ...

૩. શાળાએ જાણે કે...

૪. માં એ જાણે કે ...

૫. ભરઉનાળાનો સૂરજ એ જાણે કે ...

❖ પ્રવૃત્તિ ક્રમાંક-૧૪. “કવિ બનું હું શી રીતે?”

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-૧૫ મિનિટ}

સૂચના : નીચે દર્શાવેલા સોપાનો અનુસાર કાગળ-પેન લઈ લખતા જાઓ.

૧. પહેલી પંક્તિમાં પસંદગીના વિષય /વસ્તુનું નામ લખો.

૨. બીજી પંક્તિમાં તે વિષય /વસ્તુના બે ગુણોને વર્ણવતા ત્રણ શબ્દો/વિશેષતા લખો.

૩. ત્રીજી પંક્તિમાં તે વિષય /વસ્તુની ક્રિયા સૂચવતા ત્રણ શબ્દો /ક્રિયાપદો લખો.

૪. ચોથી પંક્તિમાં તે વિષય /વસ્તુ અંગે તમે શું અનુભવો છો, તે અંગે ચાર શબ્દો /અભિવ્યક્તિ લખો.

૫. પાંચમી અને છેલી પંક્તિમાં શીર્ષકવસ્તુને અભિવ્યક્ત કરે એવો એક શબ્દ/સમાનાર્થી લખો.

ઉદા.- “ નાનું અમથું વાદળ

જાણે તાજું ખીલેલું રૂ

રમતા રમતા જાય

ક્ષિતિજને આંબી

પૃથ્વીનું શ્રેષ્ઠ આવરણ”

❖ પ્રવૃત્તિ ક્રમાંક - ૧૫. “વાર્તા લેખન”

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-૩ કલાક}

સૂચના : નીચે આપેલી વિવિધ પ્રવૃત્તિઓ અંતર્ગત જુદા જુદા સંદર્ભમાં રજૂ કરેલી વિગતોના આધારે તમારી કલ્પનાશક્તિનો ઉપયોગ કરીને વાર્તા બનાવો.

૧. નીચે આપેલા મુદ્દાઓ પરથી અત્યંત રસપ્રદ વાર્તા બનાવો. વાર્તાલેખનના અંતે તેના શક્ય એટલા વધુ શીર્ષક આપવાનો પ્રયત્ન કરો અને વાર્તામાંથી ફલિત થતો બોધ સંક્ષિપ્તમાં લખો.

*વાર્તાના મુદ્દા - “એક સુંદર ગામ - ગામના ભાગોળે રમણીય તળાવ - સોળે કળાએ ખીલેલી પ્રકૃતિ - ધનધાન્યથી સંપન્ન ગામના લોકો - આસપાસના ગ્રામજનો દ્વારા તેમની થતી ઈર્ષા ...

૨. નીચે આપવામાં આવેલી પરિસ્થિતિનો વિકાસ કરી તમારી કલ્પનાશક્તિનો ઉપયોગ કરી વાર્તા બનાવો. ચોમાસાનો સમય છે-આકાશ કાળા ડિબાંગ વાદળોથી ઘેરાયેલું છે-એક પાણીથી ભરેલી નદી વહી રહી છે- તમે તે નદીમાં એક બોટમાં બોટમેન સાથે છો-અચાનક વાવાઝોડું,તોફાન આવે છે-બોટ ડૂબવાની શક્યતા છે-તમને તરતા આવડતું નથી-તમે શું કરશો?

૩. શીર્ષક પરથી ટૂંકી વાર્તા બનાવો.

* સાચો મિત્ર *સાચી મદદ *મારી જીંદગીનો સૌથી યાદગાર દિવસ *આશાની

અમરતા

૪. નીચે આપેલી કહેવતોનો ઉપયોગ કરીને ટૂંકી વાર્તા બનાવો.

*પુરુષાર્થ એ જ પારસમણિ *લખ્યાં લેખ મટે નહીં * હક્કનું પચે હરામનું
નહીં

૫. નીચે આપેલા શબ્દોનો ઉપયોગ કરીને તમારી આત્મસૂઝ અને કલ્પનાશક્તિનો ઉપયોગ કરીને રસપ્રદ વાર્તા બનાવો. અહીં તમે કેવા પ્રકારના સંદર્ભ લઈને શબ્દોનો ઉપયોગ કરો છો તે ઘણી જ મહત્વની બાબત છે. તેથી વાંચનારને રસ જળવાય રહે તે બાબતને મહત્વ આપીને સુંદર વાર્તા લખો.

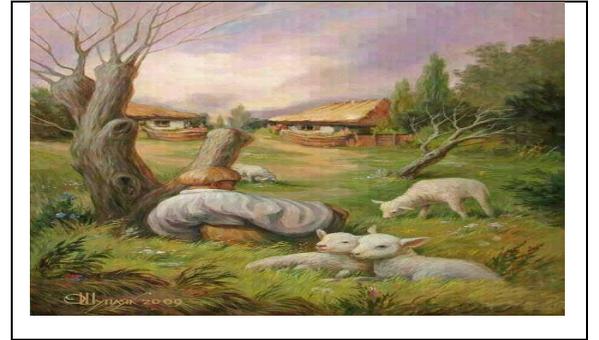
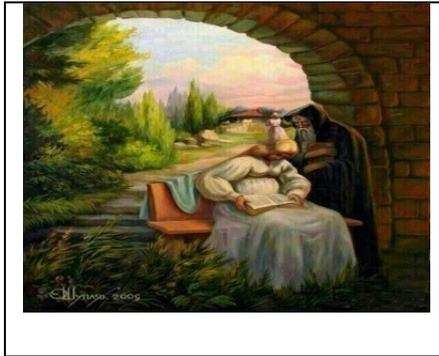
ઉદા.- ડુંગર, ઝરણું, હરણા, શિકારી, ઘોડો, જંગલ, નાનું બાળક, ફળ

❖ પ્રવૃત્તિ ક્રમાંક - ૧૬. “ચિત્ર વાર્તા”

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-૧ કલાક}

સૂચના-અહીં દર્શાવેલા ચિત્રોના સમૂહને આધારે તમારી કલ્પનાશક્તિનો ઉપયોગ કરીને ટૂંકી વાર્તા બનાવો.



❖ પ્રવૃત્તિ-૧૭ આર્ટ લેખન

{સમય-૧ કલાક}

- તમને ગમતી કોઈપણ વસ્તુના નામને એ રીતે રજૂ કરો કે જેથી આર્ટલેખન દ્વારા તેનું ચિત્ર પણ બને. તમારે કલ્પનાશક્તિનો ઉપયોગ કરીને આર્ટલેખન તૈયાર કરો.

- જનજાગૃતિ માટેનાં સૂત્રોની ચિત્રાત્મક રજૂઆત કરો.

❖ પ્રવૃત્તિ ક્રમાંક-૧૮. “શાબ્દિક વર્ણન”

અભિગમ : પ્રવૃત્તિલક્ષી

{સમય-1 કલાક}

સૂચના : નીચે આપેલી પરિસ્થિતિનું તમારા આવલોકનના આધારે વર્ણન કરો. અને યોગ્ય શીર્ષક આપો.

*નદીના કિનારા પર...

*ઉનાળાનો બપોર...

*સુંદર બગીચામાં...

* મારા ગામનું બસ સ્ટેશન

*મારા ગામની ભાગોળ

❖ પ્રવૃત્તિ ક્રમાંક-૧૯. “સ્ક્રીપ્ટ લેખન” (એકપાત્રીય અભિનય)

અભિગમ : કાર્યશાળા

{સમય-3 કલાક }

- સૂચના : ધોરણ-૮ના પાઠ્યક્રમમાં આવતા વિવિધ પાત્રો કે જે પાઠના સમગ્ર વિષયવસ્તુ તરીકે કેન્દ્રસ્થાને હોય, તે પૈકી દરેક જૂથ કોઈ એક પાત્રની પસંદગી કરીને એકપાત્રીય અભિનય માટેની સ્ક્રીપ્ટ લખો અને તેને યોગ્ય શીર્ષક આપો અને તેને રજૂ કરો. સ્ક્રીપ્ટ લખતી વેળા, લેખન અંતર્ગત તમારા મૌલિક વિચારો આધારિત સંવાદો લખવા જોઈએ. સાથે સાથે સમગ્ર વિષયવસ્તુનું હાર્દ જળવાઈ રહે તે રીતે પ્રસ્તુત થવું ઘટે. નમૂનારૂપ પાત્રો નીચે મુજબ હોય શકે. –

- *ડો.બાબાસાહેબ આંબેડકર *રાણી લક્ષ્મીબાઈ *શિબિરાજા *છત્રપતિ શિવાજી
*સરદાર વલ્લભભાઈ પટેલ * સમ્રાટ અશોક

❖ પ્રવૃત્તિ ક્રમાંક-૨૦. “એકમનું નાટીકરણ”

અભિગમ : કાર્યશાળા

{સમય- 1 કલાક}

- તમને ગમતા કોઈપણ એકમ કે કથા-વાર્તાને તમારે નાટકરૂપે ભજવવાનું છે. તમારા એકમ મુજબ જરૂરી પાત્રો મુજબ તમારા ગ્રુપ બનાવી એક સુંદર નાટક રજૂ કરો.

❖ પ્રવૃત્તિ ક્રમાંક-૨૧. “આવો કરીએ સર્જન...!”

અભિગમ : કાર્યશાળા

{સમય-3 કલાક}

જરૂરી સામગ્રી : રંગીન કાગળો, સ્કેચપેન, વોટર કલર્સ, ગુંદર, કાતર, દીવાસળીની સળીઓ,આઇસ્ક્રીમના ખાલી કપ, તેની ચમચીઓ,માટી,રંગીન ટીલડીઓ વગેરે સુશોભનની વસ્તુઓ ,પ્લાસ્ટિકની ખાલી બોટલો,રંગીન મણકા, દોરી, વૃક્ષોના પાન, સળીઓ વગેરે...

૧. તમારી આસપાસના વિવિધ વૃક્ષોના પાન લઈ તેમાથી તમારી કલ્પના મુજબની નવીન રચના કરી તેની નોંધ કરો.
૨. તમારા ઘર કે આસપાસ નકામી પડેલી કોઈપણ વસ્તુઓ ભેગી કરો અને તેમાથી તમારી કલ્પનાશક્તિનો ઉપયોગ કરી તેને નવું સુંદર રૂપ આપો અને તેની નોંધ કરો.
૩. તમારી કલ્પનાશક્તિનો ઉપયોગ કરીને માટીકામની વિવિધ કલાત્મક વસ્તુઓ બનાવો.

Appendix-IV

Evaluation sheet of creativity score

Sr.no.	J.	Pr.F.	Pr. Fl.	Pr. O.	Pr. Cr.	Po. F.	Po.Fl.	Po. O.	Po. Cr.
1	1	20	17	08	45	25	20	10	55
2	1	20	14	00	34	25	15	10	50
3	1	34	22	09	65	102	46	64	212
4	1	13	13	00	26	34	23	41	98
5	1	13	12	02	27	25	18	22	65
6	2	10	08	00	18	58	41	63	162
7	2	23	18	00	41	52	35	36	123
8	2	25	18	00	43	49	53	56	158
9	2	20	15	00	35	62	45	62	169
10	1	30	20	09	59	60	35	59	154
11	1	24	19	13	56	71	35	50	156
12	2	14	12	02	28	56	39	41	136
13	2	29	22	11	42	78	48	110	236
14	2	17	15	00	32	42	27	46	115
15	1	21	17	10	48	46	25	59	130
16	1	34	19	15	68	92	48	107	247
17	2	19	12	00	31	77	40	61	178
18	2	19	12	00	31	38	30	38	106
19	1	30	13	11	54	70	46	93	209
20	1	36	24	19	79	57	36	58	151
21	1	34	22	18	74	67	28	66	161
22	2	21	15	05	41	51	30	33	114
23	2	29	19	04	52	64	46	41	151
24	1	18	10	00	28	52	36	33	121
25	1	15	10	00	25	27	31	31	89
26	2	31	18	09	58	79	45	63	187
27	2	21	16	00	37	59	45	86	190
28	2	27	14	08	49	96	48	74	218
29	2	28	16	08	52	77	50	06	133
30	2	29	18	12	59	105	47	69	221
31	1	40	30	15	85	95	46	67	208
32	1	06	06	05	17	92	49	78	219
33	2	20	17	00	37	25	20	28	73
34	1	26	19	11	56	54	44	78	176
35	1	23	16	05	44	56	36	78	170
36	2	22	18	04	44	66	44	69	179
37	1	30	23	11	64	86	46	85	217
38	1	09	09	00	18	37	32	37	106

39	1	13	11	00	24	61	35	52	148
40	1	24	16	07	48	77	33	29	139
41	2	06	05	00	11	30	23	26	79
42	2	18	16	00	34	26	20	24	70
43	1	28	18	12	58	56	31	40	127
44	1	40	20	13	73	69	42	37	148
45	2	13	12	00	25	28	17	18	63
46	1	40	28	15	83	138	62	111	311
47	1	27	14	07	48	53	36	63	152
48	2	05	04	00	09	25	18	21	64
49	2	34	19	15	68	55	40	68	163
50	1	21	18	02	41	53	29	40	122
51	1	22	12	01	35	70	33	73	176
52	1	31	18	09	58	69	40	77	186

Pr F = Pre-test Fluency score

Po F = Post-test Fluency score

Pr Fl = Pre-test Flexibility score
score

po Fl = post-test Flexibility

Pr O = Pre-test Originality test
score

po O = post-test Originality

Pr Cr = Pre-test Total Creativity score
score

PoCr=Post-testTotalCreativity