"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 low. All children are creative and its dimensions vary from child to child."

- ALI IMAM
CHAPTER III

A PEEP INTO THE PAST RESEARCH:

3.1 INTRODUCTION

3.2 CREATIVE THINKING PROGRAMMES : ABROAD

3.2.1 Research Study : 1
John Feldhusan and Widlak :
Programme of history and Social studies in Brazilian Schools

3.2.2 Research Study : 2
Covington Cruthfield : Purdue Creative Thinking Programme relating with the discription of procedure and goals to provide direction for efforts

3.2.3 Research Study : 3
Covington Cruthfield and Davis G.A. :
Developing the Skills of Productive Thinking Programme

3.3 CREATIVE THINKING PROGRAMMES : INDIA

3.3.1 Research studies based on School subjects:
Research study : 4
Shah B.B. : Teaching Techniques in Science to develop creativity

3.3.2 Research study : 5
Patel D.D. : Productive Thinking Programme in Geography on Creativity

3.3.3 Research Study : 6
Vora Gira C. : Divergent Thinking Programme in Mathematics on the Creative levels of children of classes VII & VIII
3.3.4 Research Study : 7
Patel R.V. : A preparation and tryout of divergent thinking programme in Mathematics for std VIII

3.3.5 Research Studies in General
Research Study : 8
Jarial G.S. : An experiment with a programme for creativity Development

3.3.6 Research Study : 9
Patel J.Z. : Effectiveness of Creative Thinking Programme

3.3.7 Research Study : 10
Amin M.J. : To study the effectiveness of Creative Thinking Programme on the creative levels of the school children in relation to the programme correlates

3.3.8 Research Study : 11
Valand V.A. : A study of the effectiveness of the programme for developing Creative Thinking Ability of students of Std. V

3.4 CREATIVITY AND ITS CORRELATIONS

3.4.1 Creativity and Intelligence
3.4.2 Creativity and Achievement
3.4.3 Creativity and Personality
3.4.4 Creativity and Teacher training
3.4.5 Creativity and Education
3.4.6 Creativity and Its measurement
3.4.7 Researches on Creativity Development

3.5 RATIONALLEY OF PRESENT STUDY
3.1 INTRODUCTION

The review of related study is nothing but a look into the past research works done in the specified fields. This is a very significant aspect of the research process as pointed out by William Wiersma:

"Educational Research is not or atleast should not be carried out in any information vacumm."

The review of related studies helps the researcher by providing historical background of creativity. It also help in foresee the limitations and scope of the study and to locate the research problem in the whole area of investigation, selecting the proper tools, sample and treatment or analysis of data. Moreover it helps to practice the conclusions of the research and to avoid ambiguities.

Hence accepting the importance of a review of the past work, the present investigator tries to go through the available literature and the research repeats and review them with special reference to the type of studies in creativity.
3.2 CREATIVELY THINKING PROGRAMMES : ABROAD

There are often Creative Thinking Programmes developed in abroad. A remarkable work has been done in abroad universities relating with the aspects of creative thinking programme. Just, first of all, the creative thinking programme was exactly experimented there. Skinner, Worthimer and Kohler were the pioneer of this creative thinking. The present investigator tries to go through the available research literature in Abroad and review them with special reference to the types of studies in creativity thinking programme.

These are explained in briefly, review about a few remarkable studies relating creative thinking programme in abroad as under:

3.2.1 Research Study: 1

John Feldhusan and Widlak: Programme of history and social studies in Brazilian schools.

This study was done by John Feldhusan and Widlak at the University of Brazilia1.

In the present study 14 out of 28 stories of the

PCTP and corresponding exercises were used with a sample of children in Brazil. The choice of 14 dramatized stories were based on their relationship to the programme of history and social studies in Brazilian schools. The programmes were translated into Portuguese by the first author.

Sample

A total of 578 fourth and fifth grade children from 24 classes in both private and public Elementary schools in Brazilia, Brazil participated in the study. There were 12 fourth grade and 12 fifth grade classes with 8 classes assigned to each of two treatment conditions. Programme with reinforcement of the pupil's performance on the creativity exercises and programme without reinforcement of the pupil's performance on the creativity exercises and 8 classes assigned to the control group condition.

Procedure

Before instruction began two verbal sub-tests (unusual uses and product improvement) and two figural sub-tests, (circles and picture completion) of the Torrance Test of Creative Thinking (TTCT) were administered as per tests to all pupils in both the experimental and control groups. The tests were translated into Portuguese. The instructional material was then administered to the experimental groups by the teacher once a week, for 14 consecutive weeks. The teachers were taught how to use the material. In administering the programme the teacher read the introduction and the story to the children since tape-
The pupils then worked on the printed exercises. In one experimental condition (Programme with reinforcement) the children's completed exercises were evaluated by the experimenter. She wrote encouraging comments on their papers intended to reinforce fluency and elaboration (e.g. very good, good, good but try harder, try harder) and then gave back to the children. Pupils in the other experimental condition received no reinforcement. Pupils in the control group received no creativity training. At the end of 28 week TTCT form A was administered as part-test to all pupils of the project.

A 3x2x2 (Treatment x Sex x grade level) analysis of covariance was used to analyse pupil performance on each of 12 creative measures. Previous research indicated that the creativity sub-tests were task specific and should be analysed separately. The covariance for the divergent thinking measures were the respective TTCT pre-test measures.

Post hoc-individual comparisons between adjusted means were made for significant effects using the Newman Keul's procedures. Further analysis of covariances were carried out to analyse the effect of treatment using the class as the sampling unit.

Results
Using individual subject as the sampling unit, a
consistent finding across all dependent variables was that interaction effect reached statistical significance. The main effect of treatment was significant for all the three creativity dimensions of fluency, flexibility and originality for the times and unusual uses sub-tests. Here the treatment effect was also significant for figural originality of the product improvement sub test. The effect of classes within treatments was significant for figural fluency on the lines and picture completion sub-tests, for figural flexibility on the lines sub-test and for verbal originality on the usual sub-test. The significant classes within treatment effect indicates difference among the classes in the effectiveness of the programme.

3.2.2 Research Study : 2

Covington Cruthfield : Pardue Creative Thinking Programme relating with the description of procedure and goals to provide directions for efforts.

Development of Pardue Creative Thinking Programme (PCTP) relating with the description of procedure and goals to provide directions for efforts is prepared by Covington Cruthfield in Pardue University. The programme was first prepared in 1970 and was finally revised in 1981. The Review will be studied with respect to the description of

the procedure and goals to provide directions for efforts. Finally results and research findings will be discussed.

Description

The Purdue Creative Thinking Programme (PCTP) consists of 32 audio taped programme on 8 pages and a set of 3 to 4 printed exercises for each programme. The taped programme consists of two parts (i) 3 to 4 minutes presentation designed to teach a principle or idea to improve creative thinking (ii) 8 to 10 minutes story about a famous American pioneer. The exercises for each programme consists of printed directions, problems or questions which are designed to provide practice in fluency, flexibility and originality and elaboration in thinking subjects matter and teaching strategy.

The content of the audio-taped focuses on social studies, the series also teaches writing and listening skills which are related to the language arts. The programme is designed to be administered in a group setting or individual learning.

In developing the series some goals to provide directions for efforts were formulated as under:

1. Focus on famous people and events that represent models of creativity activity.
2. Present information as a vehicle and stimulus for creative thinking.
3. Teach creative thinking and problem-solving.
Involve students in creative verbal and drawing activities.

Use auditory rather than visual stimuli to encourage imagination.

Undertake a substantive programme or research and formative and summative evaluation.

A typical format is to present one programme each week and to devote about 45 minutes to the tape and activities. After a brief introduction by the teacher the children can discuss what they know about the person featured in the programme. This motivates the children to listen carefully. The tape is played for about 15 minutes. Activity sheets are then distributed and discussed briefly to make sure that the children understand the instructions.

Some exercise stresses verbal fluency, flexibility and originality and other are strengthened by non-verbal exercises. Figural activities stress elaboration along with above 3 factors.

Results and Evaluation

There are at least 15 published reports summarising research and evaluation on PCTP. The most recent is an extensive review of Clinkenbeard in 1980. It can be summarised briefly as under:

One of the first major studies showed that children who had experienced the programme scored higher than controlled ones on verbal and figural originality, verbal
fluency, non-verbal elaboration and language skills. A subsequent project showed increasing fluency and originality especially at the fourth grade level, for children who had been through the programme. It was also found that activities were the most effective parts of the programme. Stories almost as effective and introductory presentation some less effective.

In other study, teacher effects were investigated in the context of a comparison of the PCTP and PTP. Both were found effective in producing creative thinking gains but the PTP produced slightly more consistent gains. It become evident that children make greater gains when teacher refrain from extensive discussion of the stories.

Some scientists carried out further tests regarding the effects of spaced is massed programme use on problem solving skills, again comparing the PTP with PCTP. They found both the programmes effective in developing divergent thinking abilities and determined that the teacher's leadership role can facilitate greater creative growth when programmes are used over a longer rather than massed period of time. Overall it seems that one may conclude optimistically that the PCTP is effective in developing creative thinking abilities and some related attitudes and skills.

Teacher too can learn a great deal about creative teaching from the introduction to the tapes. The progra-
mine it is perceived as a valuable and enjoyable experience for teachers and students alike.

3.2.3 Research Study: 3

Covington Cruthfield and Davis G.A. : Developing the skills of productive Thinking Programme (PTP)

The skills of Productive Thinking Programme (PTP) is developed by Covington Cruthfield and Davis G.A. in 1966 at the university of California. This set of booklet material designed primary school students for Fifth and sixth grade, provides systematic instruction and carefully guided practice in the skills of productive thinking and problem solving. 16 programmed booklets are individually self administered and self-paced each requiring approximately one hour.

Each lesson is designed in such a way that a student working through the problem is led eventually to discover the solution for himself. This gives him the trial of discovery and helps him to develop a sense of confidence in his ability to cope with difficult and challenging intellectual tasks.

A total of 280 students comprising five fifth grade and five sixth grade classes participated in this study.

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These students generally were above average in intellectual ability. The mean I.Q. of the group was 115 checked on 6 sub tests of the Stanford Achievement Battery. In order to equate these two grades for influence of a particular teacher and a particular classroom climate, a split class technique was used.

Half the students of each class were selected to receive instruction in productive thinking while the other half of each class served as a non-instructed controlled group. Both the groups were given a pre-test battery of productive thinking problems to determine the extent to which any difference in productive thinking proficiency existed before instruction began. Then during the next 8 weeks the instruction group devoted approximately one hour per day to instruction in productive thinking.

The trained students have demonstrated strengthened skills in cognitive functions, as generating ideas of high quality, asking relevant questions, being sensible to crucial clues, making effective use of informations and achieving solutions to problems. At various points in booklet lesson, the student practices using such skills and writes down his ideas, questions or suggestions about the work to be done next. The student is led to understand what constitute relevant and original ideas, how to proceed fruitfully when faced with a challenging problems and what effective strategies to use when encounters difficulties.
Results and Evaluation

(1) Performances of the instruction and controlled groups were nearly identical on the pre-test battery indicating that they were well matched in productive thinking proficiency before instruction began. Indeed the small difference that did exist favoured the controlled group.

(2) After the instructional programmes has been computed a clear and substantial superiority in thinking was shown by the instruction group.

(3) On the follow-up battery, performance of the instruction group continued to surpass that of the controlled group by significant margin. Thus the gain in thinking skills produced by the 8 weeks of instructions was still evident more than 6 months after instructions had ended.

The same study has been replicated by Olton and Wardrop in 1967.

3.3 CREATIVE THINKING PROGRAMME : INDIA

Some researches on Creativity Thinking Programme have been carried out in different parts of India since few years ago.

These are explained in briefly, review about a few remarkable studies relating creative thinking programme in
different parts of India as under:

Research Studies based on School Subjects as follows:

3.3.1 Research Study

Shah B.B.: Teaching Techniques in Science to develop creativity.

An experimental investigation of the effects of selected teaching strategies on the development of Creative Thinking and Achievement in Science.

The objectives of the study were:

1. To find out the effectiveness of the strategies \( S_1, S_2, S_3 \) and \( S_4 \) on the development of creative thinking ability of standard VII pupils and also on the achievement in science.

IQ test, Creative Thinking Test (CTT) Figural and Pre-achievement Test were administered.

Various statistical techniques like means, S.D.'s Correlations and Analysis of variance were applied.

The findings were as follows:

1. The difference between the selected strategies for their effectiveness in developing creative thinking and achievement in science of seventh class pupils is significant at 0.01 level of significance.

(2) It was also found that the four strategies of teaching had significantly differential effects on the development of originally and flexibility but the F ratio for the effects of strategies was found to be not significant in the case of fluency.

(3) The St₄ produced significantly high mean scores for achievement of the pupils than all other strategies St₃ and St₂, produced significantly higher mean score than St₁ and there was no evidence of significant difference between St₃ and St₂.

(4) Strategy St₄ was more effective in developing creative thinking and its components as compared to all other strategies.

(5) It is observed that the effects of strategies were depend upon the level of intelligence, sex, and creativeness of pupils.

(6) St₃ i.e. dominancy of practical work did not show any significant superiority over lecture with respect to low intelligence- low creativeness girls.

3.3.2 Research study : 5

Patel D.D. : Productive Thinking Programme
in Geography on Creativity.
This study was done by Patel D.D. at the Sardar Patel University, Vallabh Vidyanagar.

Different types of the content from the text book of geography had been selected for the programme. Each programme covered five activities containing: (1) Convergent Thinking (2) Divergent Thinking (3) Evaluation Thinking. There are five questions in each programme. The programme had been finalized as an instructional tool.

Sample

The number of students involved in the study is 126 selected from one school complex of Ahmedabad city. It includes 77 boys and 49 girls of Std. IX. Sample was selected by purposive sampling method.

Objectives of the study

Objectives of the study are as follow:

(1) To provide a reliable productive thinking programme in geography for a development of creativity in standard nineth.

(2) To study the effect of PTPG on various blocks constructed on the basis of creativity and intelligence.

(3) To study the effects of PTP in geography on the creativity of the students make with respect of discussion.

(4) To investigate the instruction of treatment and the block on creativity of pupils.

(5) To suggest the recommendations based on finding or the study.

**Findings**

The findings of the study are as follow:

(1) A productive thinking programme in geography is a powerful mean to develop the creativity of the secondary school students.

(2) Initial creative ability inherited plays much more role in the enhancement of creativity of the students. They acquired high level of creativity after implementing the PTPG.

(3) IQ plays its role in developing the creativity of the students. The IQ far level was kept 110 to divide the whole group into two groups.

(4) The main effect on treatment initial creativity level and intelligence is so high that the first order and second order interaction effect was found mostly negligible.

### 3.3.3 Research Study: 6

Vora Gira C: Divergent thinking programme in Mathematics on the creative levels of the children of classes VII and VIII.

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**General Objectives**

(1) to provide the reliable divergent thinking programme in Mathematics.

(2) to study the effect of divergent thinking programme in Mathematics on the creativity of the students of Stds. VII and VII with respect to reinforcement i.e. Feed back.

(3) to study the effects of DTPM on the creativity components, viz. Fluency, Flexibility and Originality.

(4) to investigate whether the grade difference of the creativity is there or not.

(5) to investigate whether the sex difference, the creativity exists or not.

**Sample**

One school complex with co-educational system in Gujarati medium was chosen for the experiment. Three classes of standard VII and VIII from the schools in Ahmedabad city were selected. Then 3 equal groups of each standard were formed i.e. (1) a control group (2) Experimental group with feed back (3) Experimental group without feed back. Thus there were 3 experimental with 181 students.

**Tools**

Main tools in this experiment was PTC and DTPM.

(1) Possi Test of Creativity (PTC) contained 6 tests, 4 tests were verbal and remaining non verbal. In this study the verbal test were used.
(2) Divergent Thinking Programme in Mathematics (DTPM) was prepared and tested as an instrument for creativity. It contains 3 types of problems:
(a) Multi-response
(b) Hidden shapes
(c) Make-up problems

Statistical Methods
Analysis of pre-test score and post-test score was made for all the 6 groups. The ANCOVA method was applied.

Findings of the study:
Various findings were considered together and discussed in the light of the objectives were narrated, with reference to the hypothesis observations and conclusions.

(1) The Divergent Thinking Programme in Mathematics was an essential tool to develop the creativity of VII and VII grade students.
(2) The programme was equally useful to develop creativity in other sex.
(3) DTPM was an essential tool to increase the fluency.
(4) DTPM was not useful to get changes in flexibility scores.
(5) DTPM was useful but the training was not effective for originality.

On the whole the results derived from the analysis were very interesting and encouraging, showed that creativity can be developed through DTPM.
3.3.4 Research Study

Patel R.V. : A preparation and tryout of divergent thinking programme in Mathematics for Std. VIII.

This study was carried out in Rural area of Bayad District.

Sample

The sample of 60 students was selected from one school. It was divided into two groups called experimental and controlled groups.

Procedure

Pre-test, Post-test design was selected. Verbal creativity test of Baquer Mehdi was prepared in Mathematics for creativity training of the students. Especially 'algebraic expression' was selected topic for it. Ten programmes were prepared in a logical sequence and tried out. Those programmes of divergent thinkings were implemented by the investigator thrice a week. While the same topic of algebraic expression was taught to the students of controlled group by the traditional method, the pre-test and post-test were conducted and the answer-sheets were scored according to Mehdi. First the hypothesis analysis of covariance (ANACOVA) was used to analyse pupils' performance on each of the creativity measures, i.e. fluency, flexibility and originality, and total creative scores.

Results

The main effect of the treatment was significant for total creativity scores. Moreover the treatment effect was also significant for fluency and flexibility but not for originality.

3.3.5 Research Studies in General

Research Study 8

Jarial G.S.: An Experiment with a Programme for Creativity Development.

This study was carried out by Jarial G.S. in 1981.

Sample

Both the forms of the programme i.e. verbal and nonverbal include 25 lessons each. Each lesson contains 2 to 6 items. The items pertaining to the verbal form of programme have the content from the immediate environments of the students i.e. home and school and the non verbal forms of programme contains the geometrical figures etc. and sketches as its content. The experimental part of the study followed a pre-test, post-test experimental-controlled group design. The group undergoing treatment in verbal form of the programme consisted of 80 students who were divided into two comparable components i.e. IQ scores and the score on the components of verbal creativity groups were experimental and controlled. The students of the experimental group were given treatment in verbal instructional materials.

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Procedure

Whereas no treatment was given to the students of controlled group, the non verbal treatment group also consisted of 80 students who were divided into two comparable groups on the basis of I.Q. score and scores on the components of non verbal creativity. One of three groups was named as the experimental group and the other was named as the controlled group.

Like the verbal treatment group here 100 students of the experimental group were given treatment in non-verbal instructional material, whereas no treatment was given to the students of the controlled group.

The treatment given to the students of both experimental groups continued for 50 days utilising one period of 35 minutes duration per day. On one set of alternate day the students were administered the lessons from the instructional material and on the other set of alternate days, discussion around the already completed lessons was done. The TTCT Form A i.e. Verbal and Figural were administered to the students of the respective groups at present stage and their paralleled test (TTCT Form B) were administered to the similar students at post-test stage.

Result

(1) The results showed a significant effectiveness of the programme in developing different components of verbal creativity and various components of non-verbal creativity of the students.
The development of the various components of verbal creativity as a result of training in the programme was observed to be independent of the effect of sex, socio-economic status, and initial creativity levels.

The development of the different components of non-verbal creativity was not influenced by the variation in socio-economic status of the students.

The sex and initial creativity levels did not seem to effect. The development of different components of student's non-verbal creativity except elaboration with respect to which the female students and the students of initially low creativity levels gained signed significantly higher than male students and the students of initially high creativity levels respectively.

3.3.6 Research Study 9

Patel J.Z. Effectiveness of Creative Thinking Programme.

This programme was studied by Patel J.Z. at the Sardar Patel University, Vallabh Vidyanagar.

The PCTP consists of 32 programmes focusing on the life of great people and on events in American history. Out of these, the investigator translated 18 programmes into Gujarati with necessary modifications. Further he developed other similar programmes based on Indian history. The series of 25 International people and events is essentially oriented to social studies since it is a biographical series. It also relates very closely to school curriculum. Each programme consists of one creative activity worksheet. It also contains 3 or 4 similar exercises.

Sample

A total of 315, fifth grade students from 8 classes of 14 schools at three talukas of Kheda district, participated in this study. Out of 8 classes four classes were treated as experimental classes and four classes were treated as controlled classes.

Procedure

The creative ability test developed as a part of this programme by J.Z. Patel was administered to all students of 8 classes with a view to framing equal groups. Then the creative thinking programme (CTP) was implemented in experimental group followed by discussion once a week, for first 3 weeks and then twice a week for the rest 11 weeks. CAT was again administered as a post-test to all students under study. General Ability Test by J.Z. Patel was administered to obtain I.Q. of each child.
To study the effect of CTP on the components of creativity in relation to the programme correlates.

Tools.
The following test and tools were used for the study.

1. Creative Ability Test (CAT) developed by J.Z. Patel.

Results

1. The main effect of the treatment was the training of creativity by creative thinking programme, which was significant for the creativity and its components measures: Fluency, and Originality.

2. There is no significant interaction i.e. combined effects of more than one factor. But the main effect of the two factors; i.e. time duration and group discussion were found significant on creativity and fluency thinking ability.

3. The main effect of programme instructor was not significant. Though the programme instructors who were less acquainted with CTP should take active participation in the group discussion followed by each programme.

3.3.8 Research Study: Valand V.A.
A study of the effectiveness of the Programme for developing Creative Thinking Ability of Students of Std. V.
This study was done by Valand V.A. at Sardar Patel University, Vallabh Vidyanagar in 1988.

Sample

A total sample consisted 40 students selected by matching equally on pre-test score from the general population i.e. students studying in the class V. Initially the sample consisted of 160 pupils of class V of three schools of the town Moholel in Kheda district to whom the Creative Ability Test was administered as a pre-test to match the groups equal for the study. From this total sample some were rejected, which were not sufficient on matching the groups initially or being not regular during the programme implementation.

Objectives

The main objectives of the study are as follow:

(1) To study the effect of creative thinking programme on the creativity of the school children.
(2) To study the effect of CTP on the components of creativity viz. Fluency, Flexibility and Originality.
(3) To study the effect of sex differences of students on their creativity viz. Fluency, Flexibility and Originality.

(4) To study the effect of CTP on the components of creativity in relation to the programme correlates.

Findings of the study

(1) There is no significant difference in Creative Thinking Ability of group based on sex.

(2) The experimental group is found superior to the controlled group in Creative Thinking Ability.

(3) There is no significant effect of treatment and sex on CTA of the students.

(4) There is no significant difference in fluency, flexibility and originality of groups based on sex.

(5) The experimental group found superior to the controlled group in Fluency and Originality.

(6) There is interaction effect of treatment and sex on the fluency, flexibility and originality of the students.

(7) There is no significant difference in flexibility of groups based on treatment and without treatment.

3.4 CREATIVITY AND ITS CORRELATIONS

The systematic part study of researches in creativity was find out the relationship among intelligence and academic achievement and several others in past years has been made as follows;
3.4.1 Creativity and Intelligence

There was the time when creativity and intelligence were thought as one and the same thing. But it is not so now. Nowadays, researches have tried to establish a close relationship between these two different mental abilities. Creativity and its components are affected by intelligence and fluency, and relationship among students, are included in the field.

There is no consensus regarding the relationship between creativity and intelligence, and still it is a debatable issue.

3.4.2 Creativity and Achievement

Fostering creativity did not have a negative effect on achievement. It gives confidence to the investigators that their attempts for developing creativity may not in any way affect the student's achievement. The underachievers are given the procedure of problem-definition and problem solution. The creativity training motivated them to solve their own problems. Among bright students, the most highly creative ones excel in achievement to as great a degree as to the highest I.Q. students.

3.4.3 Creativity and Personality

It is related to personality of a creative child, creativity and personality growth and trends of creativity.
components, personal variable and second order personality correlates of creativity. Creativity is related to the values of the Indian adolescent students. The personality structure of a person also plays an important role in the invention, imagination or production of a creative work.

3.4.4 Creativity and Teacher Training

Attempts were also made to give some training for the changing behaviour of teachers in their classroom for the development of creative thinking in students. The prospective teachers improved in fluency and flexibility, during the training period and originality and personal worth during students teaching. Pupils improved in fluency, flexibility and originality but declined in elaboration. Inservice training should be continued in the operational phase to improve the teacher's familiarity with those progressive educational strategies. Besides, the training for teachers, and administrators was also found to be successful.

3.4.5 Creativity and Education

The goal of Education is to develop capabilities, individual expressions, inventiveness and gifted leadership. This cannot be fully attained without the adequate and accurate knowledge of creativity.

There are indications that our whole education structure is unable to assess creativity. But actually it
is a biased notion. Most of teachers do not care much for the unusual 'off-beat chile' who give answers. That do not conform to same predetermined idea of what is correct.

Different researches give reviews about teacher's creativity and family back ground- a study of relationship, creativity and academic achievement among school pupils. Creativity is significantly related to achievement, anxiety, independent education and occupation.

3.4.6 Creativity and Its Measurement

This includes the trends and status of testing in creativity problems in measurement of creative thinking and their uses.

3.4.7 Researches on Creativity Development

This is a branch of research in the field of creativity which is the most important. Only a few researches have been done in this field. Some well known researches are: Special programme for developing creativity, Techniques for development of creativity, Creativity problem-solving and also divergent thinking programme, etc.

From the classifications given above, some researches related to the creativity development are discussed hereunder in the following categories:

(1) Creativity Development Studies: Creative Thinking
Programmes.

(2) Creativity Development Studies: Productive Thinking Programmes.

(3) Creativity Development Studies: Thinking Programmes based on school subjects.

(4) Creative Thinking Programme: Its correlates.

3.5 **RATIONALE OF PRESENT STUDY**

Rationale of the approach to be developed for this study can be justified by the following points of view:

(1) Skill in thinking is a broad skill like skill in word knowing, what to do? when to do? how to do it? what tools to use? the consequences, what to take in to considerations? etc.

(2) It is much more than knowing the rules of logic or learning how to avoid logical errors skill in thinking has much to do with perception and with attention directing. It is a matter of exploring experience and applying knowledge. It is knowing how to deal with situation of one's own ideals. The Thoughts of orders. It involves planning, decision making, looking at evidence, guessing creativity and very many other aspects of thinking.

(3) Creative Thinking Programme requires the students to look deliberating at the views of the other
people involved in the situation, focus encourages the habits of pausing in the course of thinking in order to determine exactly 'what is being considered at the moment?' The random input lesson form creativity practices, the process of using a random word to trigger a new ideas.

(3) In these lessons-programmes the process involve looking in a direction and their listing 'what one sees?' It is not a matter of learning something but of practicing something. Once attention has been focussed as required it all seems easy and obvious. Thus it seems to be functional approach.

(4) The aim of education in a democratic society is the development of mental ability and thinking power of the students. The traditional concept of mental ability has been considerably expanded by modern research findings and Guilford's concept of convergent thinking ability related largely to intelligence and of divergent thinking ability related to largely to creativity have same theoretical weight and practical utility. School activity programmes will have to be geared to both convergent and divergent achievements.

(5) It is found that the gain to creativity can be achieved within a comparatively shorter time of creative instruction in any school subject area or in school endeavour. Creative ability will be more
effective if the teaching method includes the strategies which are designed to create favourable conditions. The consistent and systematic attempts put by the teachers to provide these conclusive conditions during teaching, can improve the quality of thinking of the students. It is seen that as compared to convergent thinking, very little is being done for the development of divergent thinking ability in school.

There are several major problems concerning the programmes utilization and effects, in which further researches are needed.

(a) What influences does active teacher participation have on the effectiveness of the problems?

(b) What influence does of programme instruction have on the effectiveness of the programme?

(c) What influence does distribution of training (time duration to implement the programme) have on the effectiveness of the programme?

The review of the related researches help the investigator to select the independent variable and a researches method pertaining to the problem in hand. Moreover, it also helped the investigator to prepare a research design appropriately for the problem and its objectives.