# ABSTRACT

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## 1.0 INTRODUCTION

It has to be noted that primary schooling is the single most important delivery channel of initial education for most children. For many, it is the only opportunity of initial education as more than 36 per cent of children drop-out at the end of primary schooling and 56 per cent at the end of eight years of schooling. And these are children of the poor and a majority of them are girls. Primary education is an important stage in the educational ladder, that caters the basic learning needs of these children as helping them to read, write, communicate through speech and hearing, carry out simple mathematical operations. Basic learning needs also include understanding of basic facts, rules, practices and skills with respect to health, hygiene, nutrition, housing, sanitation, the physical and social environment, participation in production processes and using natural and environmental resources. Further, children need to learn skills of discussing, analysis, choosing, deciding, working together, critical thinking, and understand their rights, develop self-confidence, self-esteem, and self- reliance. This is what primary education is all about, a self-sustaining, self-contained and self-sufficient learning experience for all children. And, primary teacher education has to develop the capability in teachers to translate these basic education objectives into appropriate learning experiences for children.

Primary stage being a foundation stage of education setup of a child and may be the one and only one opportunity of getting education for many Indian citizens, possess a greater value. But, alongwith the enough provision of schools, enrolment and retention, the question of quality education has still remained unsolved. It is fact, that the quality and extent of learner achievement are determined primarily by teacher competence and teacher motivation. And, ultimately both these

aspects indicate the effectiveness of pre-service teacher education (PSTE) provided. The institutions providing pre-service teacher education go by various names-elementary teacher's training institutions, teacher's training institutes, basic training institutes and so on. District Institutes of Education and Training (DIETs) are in most states, the main institutions that prepare elementary teachers. To ensure quality in teacher education national norms have been stipulated : twelveth class pass for entry into the training course, minimum eligibility of 50 per cent marks in the qualifying examination and a two years training for certification.

Issues relating to the quality reform of pre-service teacher education content and processes have not, however, received similar attention. In the early eighties the CAPE (Comprehensive Access to Primary Education) project introduced into the curriculum of elementary teacher education a training cum production mode for providing experience to trainees in developing local specific curricular materials and learning episodes. This was a major breakthrough in the reform of teacher education curriculum. It is also true that states have, from time to time, reviewed the curriculum of pre-service teacher education. The competency based curriculum of PSTE-course, developed in Gujarat is one of the examples of it. But, these have not been able to bring about any significant change in the basic character of the system as such.

To overcome the problem of quality education, the policy document (1986) envisages establishment of DIETs, to organise pre-service and inservice teacher's training programmes. Obviously, the improvement of quality in primary education will, to a large extent, depends on quality of pre-service teacher education and the innovations in the field of education. Looking to the fact, that 'Creativity' alone can infuse the spirit of innovations and providing quality based education, advance countries, are definitely interested in the study and developmentof

creativity as are the third world countries whose survival depends upon the creative vision and creative striving of the mass (Raina, 1980). It has generally been realised today by all nations, that their mere existence very much depends upon, how effectively they can conserve and utilise their most precious human resources. Now - a - days, it is a matter of growing concern, that the creative spark in children be identified, conserved and developed by all means. Hence, the development of creativity, which has neglected so far, should be incorporated in the objectives of education at all levels. It should be given a more prominent place in the scheme of the hierarchy of educational objectives.

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 focussed on preparation of a creativity programme for the Pre-service Teacher Trainees (PSTTs) at primary level so as to meet the demand for a creative teacher, 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 focussed on studying the effectiveness of the prepared creativity programme and the problem is entitled as:

## 2.0 STATEMENT OF THE PROBLEM

PREPARATION OF A CREATIVITY PROGRAMME FOR PRE-SERVICE TEACHER TRAINEES AT PRIMARY LEVEL AND A STUDY OF ITS EFFECTIVENESS.

## 3.0 OBJECTIVES OF THE STUDY

The study has been carried out with the following objectives :

1. To construct and standardize a creativity test for Pre-service Teacher Trainees at primary level.
2. To identify the creativity level of Pre-service Teacher Trainees at primary level
3. To prepare a creativity programme for Pre-service Teacher Trainees at primary level.
4. To study the effectiveness of creativity programme with respect to :
   a) creativity components ;
   b) caste category ; and
   c) academic stream.

## 4.0 HYPOTHESES

**Ho1 :** There will be no significant difference in the mean creativity score of the experimental group and the control group.

**Ho2 :** There will be no significant difference in the mean fluency score of the experimental group and the control group.

**Ho3 :** There will be no significant difference in the mean flexibility score of the experimental group and the control group.

**Ho4 :** There will be no significant difference in the mean originality score of the experimental group and the control group.

**Ho5 :** There will be no significant difference in the mean elaboration score of the experimental group and the control group.

**Ho6 :** There will not be any differential impact of the creativity programme on the PSTTs of different caste category in terms of mean creativity score.

**Ho7 :** There will not be any differential impact of the creativity programme on the

PSTTs of different academic stream in terms of mean creativity score.

## 5.0 METHODOLOGY

The methodology adopted in the present study to achieve the stated objectives has been described in brief as follows :

### ● Experimental Design and Procedure

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

**Phase - I**

During this phase, the creativity test was administered as a pre-test to all the PSTTs of both the experimental and control groups, to identify their creativity level in accordance with its components.

**Phase - II**

In this phase, the creativity programme was implemented to the experimental group only, in terms of a treatment for total 76 hours, during 45 days as per the prepared schematic presentation.

**Phase - III**

During this phase and after completion of the treatment to the experimental group, the same creativity test was administered to both the groups as the post - test.

### ● Sample

The sampling method used in the present investigation was purposive. The sample for the present study was formed, from the population group of PSTTs, who were studying in the first year PSTE - course in DIETs.

**(a) Sample for the Phase - I of the study (Standardization of the creativity test) :**

An initial sample of 10 PSTTs, who were studying in the first year PSTE, during 1997-98 in DIET - Kathlal (Dist. Kheda), was obtained for PILOT administration of the tool to identify the creativity level.

For FINAL administration of the tool, the whole class of the first year PSTE (1998-99) of DIET-Vadodara, i.e. 40 PSTTs were selected as the sample.

**(b) Sample for the Phase - II of the study (Studying the effectiveness of the creativity programme) :**

The total number of PSTTs, studying in the first year PSTE during 1999-2000, of DIETs : Rajpipla (Dist. Narmada) and Santrampur (Dist. Panchmahal) were selected as the sample for the Phase - II of the study. 46 PSTTs of DIET-Rajpipla were treated as the experimental group, whereas 43 PSTTs of DIET-Santrampur were treated as the control group in the present study.

## ● Tools

The following tools were used in the present study.

(i) A test of creativity to identify the creativity level of PSTTs (Constructed by the investigator).

(ii) A creativity programme (CP) for pre-service teacher trainees at primary level (Developed by the investigator).

**(i) Test of creativity to identify the creativity level of PSTTs : (Tool no. 1)**

To identify the creativity level of the PSTTs, a test of creativity, in the forms of verbal and non-verbal, was constructed and standardized, as a tool no. 1, by the investigator.

✦ The verbal form of the test included three types of activities namely; Imaginative events, Novel uses of the things and Similarity.

✦ The non-verbal form of the test included three types of activities namely; Picture construction, Picture completion and Circles and Rectangles.

✦ **Psychometric properties of the constructed tool :**

The validity and reliability of the constructed tool were estimated.

- **Validity :**

- Logical validity was established.

- Factorial validity was established by computing the coefficient of correlations between the total score on creativity and score on each component of creativity, respectively. The coefficients of four components were ranging from 0.4683 to 0.6590 (Significant at 0.01 level).

- Concurrent validity was established by computing the correlation between the total creativity scores obtained by the PSTTs on Mehdi's (1973) Tests of Creative Thinking and the constructed creativity test, which was found to be 0.5955 (Significant at 0.01 level).

- **Reliability :**

- The reliability of the test as calculated by the split-half method was found to be 0.5915 (Significant at 0.01 level).

Thus, the constructed tool has been standardized by establishing its validity and reliability.

**(ii) A creativity programme for PSTTs : (Tool no. 2)**

A creativity programme (CP) was specially prepared for the PSTTs at primary level, in Gujarati language. It was based on primary school subjects like

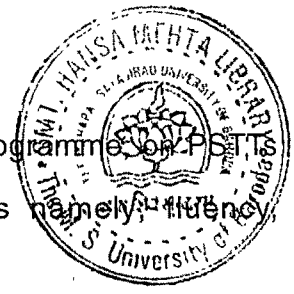
Gujarati, Maths, Environmental study, Science, English, Hindi, Social study, Physical education and Yoga, Drawing and Music, and the existing curriculum of PSTE-course in terms of effective classroom interaction, teaching methodology, lesson planning etc., as cardinal position. This programme was in the form of various activities with examples, exercises, and work-shop schedules with relevant reference materials. Out of its total 52 activities, 37 activities were based on activity based approach, whereas 15 activities were based on workshop approach. While developing these activities, the four components of creativity and various techniques for creativity development were kept in mind. The CP was validated with the help of the experts in terms of its appropriateness, relevance, capacity to describe creativity and its components, and applicability in prescribed duration of time. Necessary modifications have been done on the basis of their suggestions.

- **Procedure for analysis of the data**

The collected data in terms of pre and post test's scores on total creativity, fluency, flexibility, originality and elaboration for the experimental and control groups, were analysed through appropriate statistical techniques. To study the difference between the pre and post test's mean scores of total creativity, fluency, flexibility, originality and elaboration respectively, of the experimental and control groups, ANCOVA was applied by taking the pre-test score of the respective variable as a covariate. To study the differential impact of the CP on the mean creativity score of the PSTTs of different caste - category and academic stream, Two-way-ANOVA was applied.

## 6.0 MAJOR FINDINGS OF THE STUDY

On the basis of the summary of results, the following major findings are arrived at ;



1. The main effect of the treatment in terms of a creativity programme on PSTTs was significant for the creativity and its components namely, fluency, flexibility, originality and elaboration respectively.
2. There was no significant difference in the mean creativity score of the PSTTs of different caste category, in case of the experimental group.
3. There was no significant difference in the mean creativity score of the PSTTs of different academic stream, in case of the experimental group.
4. No interactions effect of caste category and academic stream was found on the mean creativity score of the PSTTs of the experimental group.

## 7.0 DISCUSSION AND IMPLICATIONS

It is worthwhile to discuss the findings of the study and their implications for PSTE course and instructional setting. The discussion and implications of the findings are presented below :

### • Creativity programme and the creativity level of PSTTs

The first finding of the study showed that the effect of the CP on PSTTs was significant with respect to creativity and its components viz. fluency, flexibility, originality and elaboration respectively. It directly supports one of the established facts by many of researchers in the field of creativity during the last fifty years, that creativity is teachable, educable and can be developed through training.

Pillay (1978), Nair (1978), Shah (1981), Vora (1984), Talegaonkar (1984), Gupta (1985), Singh (1985), Nandanpawar (1986), Patel (1987), Amin (1988), Bhaskara (1981), Tripathi and Shukla (1990), Srivastava and Srilatha (1992), Patel (1993), Shetty (1993), Sharma (1994) and Thakar (1996) 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, elaboration, 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 PSTTs. 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 making pre-service teacher education programme creative, it would be necessary to introduce the topic of creativity in the curriculum as a part of the theory, and to acquaint the PSTTs with the concept of creativity, educational implications of creativity and the ways and means of developing creativity.

But, this only is not enough. Mere theoretical acquaintance with the concept of creativity is not going to serve the purpose. Creative approach should be mainly assimilated and implemented in the practice teaching programme as a part of instructional setting. Today, our practice teaching is almost, traditional, regimented, and stereotyped. It is essential to set before the student - teachers some specific models or patterns of planning, orient them with some methods of teaching, and want them to follow these patterns and methods, rather rigidly, while taking their lessons. The criteria of supervision is fixed, established and uniform and the remarks on the lessons also represent this rigidity and conformity of thinking. One hardly allows the student-teacher to deviate from the routine, go off to the beaten track, rather discourage them in doing so. There is little scope for the student- teachers to use their ingenuity, originality and imagination. As a result of which, their teaching becomes artificial, mechanical, dull and lifeless. They develop a traditional, unimaginative approach, in the terminology of creativity, a convergent approach towards

teaching, rather than a divergent or creative approach. Not only that, but this authoritative training pattern kills the originality, individuality, initiative, imagination, in short creativity of the student-teachers.

As long as, this state of affair continues in training institutes, one cannot expect to produce creative teachers, who would be inspired and trained to develop creativity among the students. The need today is not merely to prepare and produce good teachers, but creative teachers. If creative teachers are to be produced, the existing training procedure needs drastic changes. Some programmes or strategies to be included in the curricula of different areas of learning viz. Science, Mathematics, Art and Literature etc., where creativity development may be fostered through different newer inputs.

But the question here is, while developing such programmes or strategies or materials, in what ways can the activities under these, be grouped together so as to get the maximum advantage in the real instructional setting ? How can interdisciplinary activities be organised amongst the subjects so that their knowledge of one subject be linked to another subject and vice-versa ? All these questions need to be answered empirically by the investigators, while developing such types of programmes or strategies or materials.

Alongwith this, the obtained finding has wide applicability in the context of not only PSTE programme but also for fostering creativity in the classroom, enrichment of the curriculum, building creativity into text-books, specialised teaching methods, specialised evaluation techniques, organising new systems, development of supporting environment, inservice training for teachers etc.

- **The CP and caste category of the PSTTs**

In connection with the second finding, it can be said that an individual cannot

be taught to be creative because being creative is an active mental process, a person undergoes. But on the other hand, creativity can be developed with the help of supporting environment and training. In the present study, the equal effect of the treatment was found on the different caste groups of PSTTs.

Now a days, more and more educational awareness is seen in the students of different castes. Parents have also become conscious to motivate and inspire them. So now, it is not the monopoly of only the high caste people to achieve qualitative education in the society, as that was seen in the past. Now the students from all the castes are indulged for their educational progress. In the present study, no significant difference was found in the mean creativity score of the PSTTs of different caste category. This may be because of the educational awareness and progress of different caste groups of PSTTs.

All above, it is the fact that creativity has a direct concern with the free and spontaneous flow of innate abilities. Hence, it does not have any concern with the caste of individuals.

- **The CP and academic stream of the PSTTs**

With regards to the academic stream of the selected groups, it was observed that the average result of the PSTTs in Std. XII$^{th}$, of the general stream was 77.59 per cent and 63.09 per cent was that of the PSTTs of science stream. Obviously, it was the high scholastic achievement of the PSTTs of the selected groups. Also, all the PSTTs of both the groups, having initial creativity level to some extent. This may be because of their high previous scholastic achievement. This may need further investigation.

However, many Indian researchers like Lalithamma (1973), Jain (1977), Mehdi (1977), Awasthy (1979), Jarial (1981), Dave (1981), Brar (1986), Desai (1987), Gore

(1990), Srivastava and Srilatha (1992) reported a positive and significant relationship between creativity and scholastic achievement. The same supporting view has been found in the present study.

In the present study, the treatment provided was not subject specific. It was mainly based on primary school subjects and the curriculum of PSTE course. Also, the treatment was given with a view to develop the general creativity with respect to fluency, flexibility, originality and elaboration. So the investigator feels that due to the initial creativity level of PSTTs and provided treatment related to general creativity, no significant difference was found in the mean creativity score of the PSTTs of different academic stream in the experimental group.

Thus, on the basis of the above mentioned major findings of the present study and the investigator's experience as a teacher and teacher educator, he feels that, if the notion of creative education is to succeed, the teacher's role is quite significant. Hence, it would be desirable to provide creativity oriented training to not only PSTTs but also to inservice teachers and the teacher educators.

## 8.0 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 another correlates like sex, 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 to 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 PSTTs covering music, painting, 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 multimedia as a specialised teaching technique 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 creative thinking.

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 textbooks of primary school subjects, for building creativity.

12. To study the usefulness of identifying the creativity level of Pre-service Teacher Trainees at primary 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.