

**A STUDY OF ATTITUDE OF PUPIL TEACHER TOWARDS
CREATIVE TEACHING**



**CLUSTER
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OF JAMMU**

A

DISSERTATION

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DEDICATION

**“This dissertation is dedicated
to my beloved parents who
sacrificed their yesterday for
my better tomorrow”**



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CHAPTER-I

INTRODUCTION

The strength of education system largely depends upon the quality of teachers who sustain it. The teaching Profession is universally regarded not only as one of the most important profession of civilized life, but also the noblest of all. The Main function of teacher education programme is to provide appropriate inputs to the prospective teachers so that they acquire the necessary insight and skills which enable them to become effective teachers which Indian society needs so intensely. Dr. Radhakrishnan (1949) has aptly observed in this context, “The teacher’s place in the society is of vital importance. He acts as the pivot for the transmission of intellectual, traditional and technical skills from generation to generation and helps to keep the lamp of civilization burning.” It is the quality of teacher, which creates excellence in all walks of life. Thus, the teachers are the real architects of a nation. Therefore, teacher’s performance is a crucial factor in the field of education. Importance of Teaching Profession is reflected in the words of Aristotle “Those who educate children well are to be honoured more than those who produce children give them only life but those who educate them give them the art of living well.” The teacher is single most important factor responsible for the success, reforms and the advancements of educational programs. Teacher education is no longer a training process but an education strategy for enabling teacher to teach and

concern for their well-being. A sound program for professional education of teachers is essential for the qualitative improvement of education which is possible through creative teaching.

I.1 MEANING OF CREATIVE TEACHING

Creative teaching is a kind of teaching style that increase level of motivation and self esteem on the part of learner and to prepare them with flexible skills they need for the future developing the capacity to be creative is believed to have the potential to enrich lives and helped contribute to a better society teaching children is an act an enthusiastic teacher find joy in teaching the children the teaching experience is become more enjoyable. Every teacher craves for creative methods and new teaching techniques teaching with appropriates teaching aid is proven effective method of teaching there are many ads available to assist the teacher which make the blackboard and computer as secondary media for teaching creative teaching facilitate the teachers by providing handsome experiences with realist teaching aids designed with negligible cost guided by a renowned personalities in the field of education effective utility of properly designed teaching manual plate and AIDS enhance the ability of teachers and makes the children to love learning.

There are three key elements which define the creative teachers the individual teachers Personal qualities are crucial they need to processes curiosity and a desire to learn a sense of humour and enthusiasm they should have a secure

knowledge base and understand children's need and interest the second element is the pedagogy and teaching approaches a creative Teacher is likely to adopt a questioning stance and well link ideas together finding different ways of drawing people into the subjects this seems to be a to be a process as people are encouraged to be active participant asking questions and strengthen the teacher to the final factor is school creativity is only possible if risk taking is allowed and even encouraged the best outcomes were seen when schools opened their doors to outside influence such as creative partnership and the wider community creative teaching does not necessarily mean that you need to put in heart of preparation for every single activity you do making up cards activity packs and the like this would in fact be a bad planned as the pressure would remove any possibility of having a like outside of the classroom while people might find it hard to believe that such a life exist teachers know that it does not exist and that it is very precious to us the idea behind creative teaching is seam to enhance the learning process and as such it should enhance your job to it should be strategy and enjoyable experience is for us for you as well as your peoples it's not selfish to want enjoyable your job .

In creative teaching, principles of learning are applied at every stage of education. It is method-oriented in which the emphasis is not so much on the subject as on how to learn it. In fact, Joshi (1974) observes that in a creative teaching, learning the subject itself is not that important as is learning, how to

learn. There is much less emphasis on the fixed syllabus - fixed set of textbooks and the routine system of examinations. Creative teaching gives more importance to students' own initiative to learn. The student is to be taught to explore the field of study on his own after he is given the necessary directions and guidance. Teachers engaged in and dedicated to creative teaching encourage students to think of wild ideas and also to question the accuracy of statements made in the text books or reference books. Joshi further observes — "The library and laboratory are more useful than text books. It is in the laboratory that the students get the opportunity to learn by doing and to have first hand experiences in their areas of learning. Teaching in educational institutions becomes creative, when it centers around discussions and seminars instead of routine lectures". Creative teaching also demands that field trips are arranged to provide opportunities for students to link class-room experience with real world happenings, to observe factory operations and people associated with them at work on a real product, to know the practical application of a theoretical concept or principle and together data relating to a problem. A creative teacher is capable of using almost any sort of method in a creative way. He does not allow himself to get stuck in the rut of any one method or class room structure. In every teaching situation, he is rather able to respond to the needs of the moment in fresh ways. According to N.K.Dutt and Gurbaksh Lai (1977), a creative teacher possess abilities included in creativity

syndrome in abundance and makes use of them in various teaching-learning situations. A creative teacher possesses qualities like originality, sensitivity to problems, curiosity, ideational fluency and power of imagination in abundance. He is pleased to find these qualities in other individuals too and tries his best to nourish these qualities. A creative teacher is sensitive to the problems arising either in the class rooms or in the school and has got the capacity to suggest more than one solution to solve these problems. According to Richard Allison and Kriben Pillay (1995) traditional education as we all too often experience it carries a responsibility for the stifling of our powerful urge to learn. We need to rediscover our curiosity, and the sense of everything in the world being potentially interesting. The creative teacher seeks to re-awaken natural curiosity by re establishing the right relationship between 'student', 'teacher' and the world. Right relationship with the world encompasses not only the natural world but also the world of human creation; not only the outer objective world, but also the inner world of thought and feeling, without any sense of dichotomy. They further urge that creative learning/teaching could only occur when there was no compulsion and no competition; these conditions in turn could only be fulfilled when the urge to learn came spontaneously from the student. The teacher's task, then, is largely one of discovering and helping the students to discover their internal obstructions to learning - and by this discovery to dissolve them. They further add that it is

essential that a creative teacher have some unity of vision even within his admittedly limited field of knowledge, and not be confined within one or two little subjects. The teacher needs to be aware of the inter-connectedness of all disciplines and all subjects and have a spirit which wanders freely, unafraid of artificial barriers; a spirit which is always young enough, always enough of a 'beginner' to be continually excited by fresh discoveries. The concern of a creative teacher is by no means confined to the merely academic, or even the physical welfare of the child. It is a far wider concern for an holistic education which will foster a global outlook in the child and which aims to make education relevant to more effective living. It was believed (Dutt and Lai, 1977) in the past that only artists like painters, poets, musicians etc. are creative persons, whereas psychological researches of present times have shown that creativity can demonstrate its pleasant influence in any sphere of human life. A woman furnishing and decorating her house at a low cost, a shop keeper inventing some novel device to attract maximum number of customers, a teacher continuously trying to protect and develop the creativity of children are all creative beings. Besides playing an important role in their respective fields, all of them make important contributions for the progress and development of the fields of their activities. The defective methods of teaching play havoc upon the creativity of children. Besides protecting the creativity of children, creative teaching helps further development of their creative

potential. Here the question arises, whose teaching can be termed as 'creative teaching'. The most simple and natural answer to this question is that the teaching of a creative teacher can be labelled as creative teaching. Again, according to Dutt and Lai (1977) - A creative teacher has a strong desire to go deep into the sea of unknown and illumine himself by the golden rays of the sun of knowledge. He is accustomed to independent thinking and his rich imagination constantly overflows the banks of his mind. Moreover, he always yearns to nourish the creativity of children so that it may blossom forth and spread its fragrance. In creative teaching, rote memory and blind imitation are not encouraged, whereas special emphasis is laid on independent thinking. It is true that by imitation, we learn many things very easily but it is also equally true that imitation is the greatest enemy of creativity. Because of this tendency, we become slaves of traditional techniques and practices. These practices have their own value but they should not replace originality in any case. A serious deadlock will arise in the progress of civilization if we simply imitate and do nothing else. While teaching, a creative teacher keeps in mind that he has to enable the students to cross the barriers from learning to thinking. For instance, after teaching 'Indian Constitution', to students, the teacher can persuade them to think about the changes which should be effected in the constitution in the context of changed circumstances or what changes will have to be made in the constitution to bring about socialism in the country. A teacher having high

ideals and principles can hope to be called a creative teacher and his teaching deserves to be labelled as creative teaching. Such a teacher has got unlimited reverence and unshakeable faith in his profession. He has strong desire to perform his duties with zeal and enthusiasm because he is interested in teaching. He is overjoyed to see his students marching forward on the path of progress. Creative teaching is always constructive. Efforts are made to ensure that students do not remain passive listeners only. On the other hand, they are encouraged to acquire knowledge actively. Creative teaching includes the teacher's new ideas, self-evaluation, self-reliance, new opinions, new experimentation and teacher's willingness to advance new ideas which are basic to creativeness. Creative teaching stems from being dissatisfied with the results obtained from existing procedures, from the feeling that perfection is something never attained but constantly sought from having new ideas and from willing to try the new ideas and evaluate the results obtained. Creativeness is in fact a constant state of experimentation. This experimentation involves planning, testing and revising. Thus a creative teacher has to be up and doing in his task. Creative teaching is active. It calls for what Thorndike (1937) has termed the 'active virtues of citizenship' - self-reliance, initiative and originality in contrast with obedience, docility and conformity. Struck (1956) emphasises - "Creative teaching calls for an active, problem-solving attitude toward life rather than that which is passive; it brings

into play constructive thinking, planning and doing in contrast with aimless thought and action". Creative teaching uses the tried ideas of yesterday, but more extensively the mature judgement of today and the evolving ideas of tomorrow. Education is change and creative education is purposeful change. The great teachers of all times have stressed self-activity. Creative teaching then becomes a procedure in which the emphasis is upon present-day needs and in which actual habits of work are established by the learners. Teaching is creative (Struck, 1956) if it arouses a zeal for learning, if it stimulates selective thinking and purposeful action. Creative teaching emphasized good habit formation. Some valuable habits that creative teaching seeks to develop are: (i) the habit of open mindedness; (ii) the habit of suspending judgement until the facts are known; (iii) the habit of looking for causes; (iv) the habit of evaluating on the basis of facts. Creative teaching is based on well-founded goals. Creative teaching calls for a thorough understanding of what is to be taught. It is impossible to teach creatively without a firm conviction that the job is worth doing and worth doing exceptionally well. An essential element in truly creative teaching is enthusiasm. In order to have enthusiasm one must have a real interest in teaching. This implies that the true teacher gets satisfaction out of seeing his pupils develop (that he is willing to be patient, painstaking) and thorough in his work because he feels that the results are worth all it costs. Teachers have a key role to play in the development of their

pupil creativity (Torrance and Myers, 1970). Creative teaching proceeds upon the conviction that there are within each person creative impulses which need to be encouraged and nurtured. It is believed that creativeness is something that springs from within and that can be strengthened by understanding and encouragement. Consequently, the recognition of individual differences in learners is very necessary to develop creativeness - to let it bud and flower at its best. The teacher who would encourage creative learning and original work must be sensitive to individual differences in feeling, spirit and capacities. The creative teacher does not encourage 'copy-cat' procedures. He encourages originality. The more informal and natural the teacher can be, the more likely is he to encourage creative thought and manipulative activity - but always with the reservation that freedom and informality shall not be construed to mean license. Freedom must never be permitted to degenerate into lack of respect for the rights of others in the class, the teacher, or the school. Where there is true freedom, there is self-engendered activity - the ideal means of learning. Creative teaching seeks to bring out in learners that love for creativeness which has come to mean so much to the teacher's own life and to the life of the artist. The value of developing courage in learners is evident. Many a person with very ordinary talents, but with strong will and courage, has done far more for the betterment of society than others with brilliance and skill who were dominated by vacillation and lack of driving power. Creative teaching calls

for a bold spirit and for gallant courage. Creative teaching, to the older group at least, does not consist in casting overboard all that is old in order to sample that which is untried.

I.2 IMPORTANCE OF CREATIVE TEACHING

Every child has the ability in them to be creative and this may manifest itself in many different ways the role of teacher is crucial in providing a safe environment where is child feels as though you are able to express their creativity explore it and understand it significance to it is only in i recent times that creativity has been understood to be a noteworthy part of child development and research has been proven that creativity is a useful tool for expressions and for understanding once thought feeling as well as those of others creativity however cannot just happen in its own Accord it need to be checked out to be cultivated and it is the role of the teacher to encourage and allow time for that to happen with each and every student the importance of creativity e in teaching can be understood in following heads

1. Creativity is multidisciplinary not only we practice creativity through many different mediums its benefits are applicable to almost all professions.
2. Creativity allows you to express yourself an integral part of the human conditions involves learning who we are and recognising how that fits into

the rest of the world creativity allows self-discovery as well as the opportunity to share a hidden side of ourselves.

3. Creativity promotes thinking and problem solving from technical details of writing drawing for composing to the challenge of creating problem solving is a required component of the creative process.
4. Creativity reduce stress and anxiety people usually Pashu creative project because to enjoy the process are the outcome just the act of creating inspire a sense of contentment
5. Creativity allows you to enter your happy and have fun creativity is really another form of play and joy is universally important to each individual sense of joy and wellbeing
6. Creativity gives you a sense of purpose writers artists and musician of an identified by those Birds whether they make money at the aircraft or not their creative method is there way of processing the world and every of discovering who they are
7. Creativity can lead to the feeling of accomplishment and Pride the combination of brainstorming the technical process and if list process is often the project recipe for personal satisfaction
8. Creativity can like you to others with the same passion it is important because it fosters a sense of connection and understanding of what it

means to be human creative focus can help you find your community and feel less alone in the world.

I.3 ASPECTS OF CREATIVE TEACHING

It has now become important that at primary school level teacher must adopt the various forms of creative teaching for more and more productive learning outcomes. It is also quoted in NCF 2005 that Quality Learning is a generative process of representing and manipulating concrete thing and mental representations, rather than storage and retrieval of information. A motive of establishment of knowledge based society is the ultimate quest for quality teaching. The quality teaching can be achieved through creative teaching approach. J. Aggarwal mentions following essential aspects of creative teaching-

A. Creative thoughts- Teacher should encourage students to read and write all their thoughts and evaluate them critically and analytically.

B. Creative Questioning- Teacher should ask open ended questions to bring out wide range of responses.

C. Divergent Thinking- Teacher should inculcate a habit of searching for different ways of organizing the knowledge.

D. Productive Opportunities- Teacher should encourage students to develop heuristic attitude and promote talks that are explorative and hypothetical.

E. Appreciation- Teacher should appreciate learners for their imagination, inquisitiveness and spirit of enquiry.

F. Decision Making- Teacher should provide opportunities for choice and independent decision making among learners.

G. Sharing Intellect- Teacher should encourage students to learn from other students questions and responses as well as comments.

H. Providing risk- taking atmosphere- Teacher should create such an atmosphere in a classroom or instructional place that enhances risk taking attitude of learner. If teachers are able to create such creativity-fostering atmosphere, the rest will be done by the atmosphere itself

I. Avoiding De-motivation- Teacher should not de-motivate students as it leads into creation of unproductive mental state.

J. Interesting Assessment techniques- Teacher should promote assessment as part of teaching-learning process which will not be a burden or matter of phobia to the students.

K. Innovative assignments- Teacher should give activity and skill based challenging assignments that discourages habit of rote memorization.

I.4 FEATURES OF THE CREATIVE TEACHER

1. They Teach the Same Concept in Multiple Ways.

Cognitive psych research tells us that teaching the same material in different modes— visually, orally, kinaesthetically—helps reinforce learning. Can you

do this in such a way that you're not simply repeating the same material, but integrating the old with the new? If students spent a lot of time reading textbook passages and articles during last week's unit, try to find a video that conveys all the same information and strategically work it into this week's unit.

2. They Organise Course Material in a Cognitively Advantageous Way.

The brain likes what the brain likes. Why do we not pay more attention to it in day today practices? The very linear way we teach course material, moving discretely from one concept to the next without weaving them into one another, doesn't compliment the way the brain organises information. We're leaving it up to the students to make all the big-picture connections, but doing so is an educational disservice. It's our job to spend time not only deciding how to present ideas, but also how to highlight the relationships between them. This is an extremely important, often neglected, part of the instructional process. Without drawing students' attention to the links between concepts, we are leaving them with islands of information, isolated bits of knowledge that may help them on a multiple-choice test but won't help them write a coherent essay on the subject.

3. They Are Creative Outside of Teaching.

"Research shows that the most accomplished, innovative people in any field are also highly creative in areas outside their professional lives," write Henriksen and Mishra. "They actively draw on outside interests and creative

ways of thinking to improve their professional practice.” The winners and finalists they studied had a variety of creative hobbies and interests, which they actively incorporated into lessons and practices.

“Besides noting outside pursuits—anything from rap music to cooking to hiking— award winners reflected on how these pursuits affected their creativity, both overall and as teachers. For instance, teachers with musical and artistic interests found many ways to weave music or art into their teaching.”

4. They Stay Educated Themselves.

Creativity requires new stimuli. Being able to connect the old with the new, mix and match ideas from various disciplines, consider new perspectives, and use new tools and practices—all these things make teachers more creative, not to mention effective.

I.5 BENEFITS OF CREATIVE TEACHING

- (a) Encourages children to become independent in their learning and thinking skills.
- (b) Enables children to look past the norm.
- (c) Allows children to further their thinking so they are not 'stuck inside the box'.
- (d) Supports child led discovery, with support from the teacher. 'Limitations can be a good thing to motivate creativity' (Bartel 2008).
- (e) Gives children a attitude to create and try something new.

I.6 BARRIERS TO CREATIVE TEACHING

- (a) Teachers have a busy schedule which can mean that they do not have the time to plan something creative and new.
- (b) One of the barriers to creativity is how overloaded teachers schedules can be'.
- (c) Some children may be put off by being creative as in previous experience they have found themselves being wrong, or not being happy with the result. This means that teachers need to encourage that this is fine, children need to learn from their mistakes.
- (d) Some children cannot accept change.

I.7 STRATEGIES FOR CREATIVE TEACHING

The biggest challenge, any teacher faces is, capturing the students' attention, and putting across ideas in such a way that it stays with them long after they have left the classroom. For this to happen, classroom experience has to be redefined and innovative ideas that make teaching methods more effective should be implemented.

Followings are the most discussed teaching strategies, which can be practiced by primary teachers for teaching to become a creative approach. These are very helpful and simple ways of making teaching a creative at primary level for teachers.

A. Use of creative Tools and Techniques

Teacher can take the help of creative tools to stimulate creativity. He or she should include playful games or forms of visual exercises that will excite the young minds and capture their interest. This is a time tested method to identify young student's creative abilities and encourage creative contributions. Teacher should bring aspects of creativity into all his or her subjects, be it mathematics, science, or history. Teacher should think of ways to develop their creative ideas. Encourage different ideas, give them freedom to explore.

B. Use of Audio and Visual Materials

Incorporate audio-visual materials in your sessions. Supplement textbooks with models, filmstrips, movies and pictorial material. Use info graphics or other mind mapping and brain mapping tools that will help their imagination thrive and grow. These methods will not only develop their ability to listen, but will also help them understand the concepts better. For example, you can get some oral history materials, conduct live online discussions or playback recordings of public lectures. There are a lot of smart apps for preschoolers that you can utilize to create awesome slideshows or presentations.

C. Linking with “Real-World” Learning

Link your lessons to real world learning. Infusing real world experiences into your instructions will make teaching moments fresh and enrich classroom learning. Relating and demonstrating through real life situations, will make the

material easy to understand and easy to learn. It will spark their interest and get the children excited and involved. You can make use of smart apps for preschoolers to make these sessions all the more interesting.

D. Brainstorming

Make time for brainstorming sessions into your classrooms. These sessions are a great way to get the creative juices flowing. When you have multiple brains focusing on one single idea, you are sure to get numerous ideas and will also involve everyone into the discussion. These sessions will be a great platform for students to voice their thoughts without having to worry about right or wrong. Set some ground rules before you start. You can go for simple brainstorming or group brainstorming or paired brainstorming.

E. Classes outside the Classroom

Some lessons are best learnt, when they are taught outside of the classroom. Organize field trips that are relevant to the lessons or just simply take students for a walk outside of the classroom. The children will find this fresh and exciting and will learn and remember the things taught faster. Role playing is most effective for students of almost any age group. You just need to customize depending on the age group. You can even use this method for teaching preschoolers; just make sure you keep it simple enough to capture their limited attention span.

F. Role Playing

Teaching through role play is a great way to make children step out of their comfort zone and develop their interpersonal skills. This method comes in handy, especially when you are teaching literature, history or current events. The role playing approach will help the student understand how the academic material will be relevant to his everyday tasks.

G. Storyboard Teaching

Just think, why do you watch movies with much interest? You like to watch movies because there is always an interesting story to keep you engaged. Like that, learning sessions become more interesting when you introduce it like a story. If you are creative even math lessons can be related to interesting stories. Storyboarding is a great way to teach any subject which requires step-by-step memorization or visualization highly-conceptual ideas. History teachers can use a storyboard to recreate a famous event. Such visually stimulating activity will ensure that even complex ideas are easily put across to students. You can also encourage the use of storyboards as a form of communication and let the students tell a story in pictures using their imagination.

H. Stimulating Teaching Learning Environment

A classroom environment that is well-decorated, fun, and engaging will help stimulate a student's mind and will help think and learn better. Children, especially young ones cannot be expected to sit all day and learn. Such creative

and stimulating environment will help them explore and will encourage them to learn about the subject. An environment that positively impacts the children is beneficial for the teacher as well. Schools associated with **Early Years Foundation Stage (EYFS)** will vouch for the fact that the learning environment has a prime role in learning and development.

I. Welcoming new ideas of student

An open- minded attitude can help you innovating new teaching methods. Though open- minded, sometimes most of us show reluctance to new ideas. If you're a teacher never do this, always try to accept new ideas even if it looks like strange at the beginning.

J. Inculcating culture of new hobbies among student

Sometimes, hectic workload may affect your engagement in teaching .If it happens to you, it's natural. You can take a break for couple of hours and engage in some other activity that you're interested in. This will rejuvenate you and you can return to your work with more passion and interest.

K. Work Together As a Team

As everyone knows, the end result of collaborative efforts is always immense. Think about spending some quality time with your colleagues. Ask them to share their views on improving teaching methods, you can see many of them come up with interesting strategies. So, collaborate and introduce innovative teaching methods.

L. Puzzles and Games

Learning is fun where puzzles and games are part of education. Children may not feel they're learning when their lessons are introduced through games. Puzzles and games help children to think creatively and face challenges.

M. Start School Clubs or Groups

What about starting an after school club or group? Being a teacher you may not get enough time to work on interesting topics that you are passionate about. You can share your views and learn more from others when you have school clubs or groups.

N. Refer Books On Creativity

To be a creative teacher, you need to do some research on creative ideas and techniques. There are a lot of books on creativity. Choose some of the best works and start learning, it will be helpful for your professional development as well.

O. Loving our work

You can give your best only if you truly love what you do. You will be more creative and inspired when you are not stressed. Loving your work keep you relaxed and give you room to experiment new ideas.

I.8 MEANING OF ATTITUDE

Attitude is one of the most useful concepts that psychologists evolved to deal with the organization of experience and behaviour. Attitudes are learned

largely through socialization process and interaction with other people. Attitudes are inner feelings and beliefs of an individual towards a particular phenomenon. Attitude is the most useful concept with which psychologists get involved to deal with the organization of experience and behaviour. An attitude is relatively enduring organization of beliefs around an object or situations in predisposing manner. Attitudes are closely related to opinions. It is all due to experimental psychology that attitude is brought to conscious level.

Thurstone (1946) defined an attitude as “the intensity of positive or negative effect for or against psychological objects.”

G.W. Allport (1953) has defined, “an attitude as a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon individual’s response to all objects with it is related.” Allport’s definition implies that attitude refers to a general state of readiness.

Sarnoff (1962) has given a very short cut idea about the attitude. He states, “it is a disposition to react favourably to a class or subject.”

According to Rosenberg, “An attitude is a relatively stable response to an object”.

Guilford defines attitude as the, “tendency to favour or not to favour some type of object or situation.”

According to Frank Freeman, “An attitude is disposition readiness to respond to certain institutions, persons or objects in a consistent manner which has

been, learned and has become one's typical mode of response. An attitude has a well-defined object or reference, e.g. one's views regarding class of food or drink (such as fish and liquors), sport; or democracy are attitudes."

I.9 COMPONENTS OF ATTITUDE

There are three components of attitude. These are : (a) Cognitive, (b) Affective and (c) Behavioural.

- a) Cognitive includes person's perceptions, beliefs and stereotypes. Opinions are substitutes for cognitive component.
- b) Affective component includes the vigorous emotional feelings.
- c) Behavioural component consists of the tendency to act or react to object in certain ways. Attitude depends upon the environment in which the individual lives. It does not develop abruptly. The development of attitude is a slow process, this object and some degree of this object and some degree of individual's environment with the object.

I.10 CHARACTERISTICS OF ATTITUDE

1. Attitude is inferred from the way individuals behave which could include the behaviour of filling out an attitude questionnaire.
2. Attitude is directed towards psychological object or category people categorize in different ways. One's own conceptual system (schema) determines how one categorise the object towards which attitude is directed.

3. Attitude is learned because it follows changes. Finally attitudes influence behaviour “holding an attitude towards an object give some areas on how to behave towards the object in a certain way.
4. Attitude has motivational and evaluative properties.
5. Attitude is relatively stable.

Attitude is closely related to opinions. A distinction can be made however; a person can state his opinion in words but may not be able to express his attitude in the same way. He will reveal his attitude by his action and only indirectly by the content of his statements.

Attitude is also related to prejudices. A prejudice is rigidly fixed. Attitude becomes a prejudice when the predisposition is so strong that no attention is paid to evidence that might call for a changed reaction.

An attitude is an inferred (not directly observed) intervening variable, but it is reflected in such activity as judgments, choices and actions. Attitude has objects, people, things or issues, towards which they are addressed. Attitude have four dimensions; intensity, direction, extensity and duration. Each of these aspects influences the behaviour of an individual.

I.11 SIGNIFICANCE OF THE PRESENT STUDY

Education is the process of helping the child to adjust to the changing world. Since education is viewed as an instrument to develop the cognitive qualities and understanding of peoples should be fully equipment with certain skills of

teaching as well as they might have knowledge of sociological, philosophical, as well as teaching learning process for this B.Ed course of teacher education programme is a very good programme for shaping teacher trainees into creative teachers. It has been recognized that schools and initial education play a key role in fostering and developing people's creative and innovative capacities for further learning and their working lives. Moving now to look at student teachers and their creativity, we need to find out about their conceptualizations of creativity, their sense of identity as creative individuals and their experience of creativity in schools. These are a vital concern in Teacher Education because they are the basis of their meaning making. In doing so, we also need to recognise that professional identity is not a stable entity – not fixed or unitary, but relational and situated. NCTE (1998) has pointed out that teacher education programs should focus on competencies and commitment in much greater magnitude which can enhance the creativity among Pre-Service Teachers. The investigator is curious to find out the differences in the attitude of pre service teacher trainees towards creative teaching. The results of the present study can be used in this direction to enhance the creative potential among the pre service teacher trainees by introducing various curriculum modules that in turn may be helpful in enhancing creative potential among the students. In order to develop creative teaching learning approaches, it is crucial that teacher training prepares new teachers to become reflective practitioners

able to discern how a teaching method or activity can stifle or trigger creativity among their students.

I.12 STATEMENT OF THE PRESENT STUDY

The problem undertaken for present study is stated as under :

“A STUDY OF ATTITUDE OF PUPIL TEACHERS TOWARDS CREATIVE TEACHING”

I.13 OPERATIONAL DEFINITIONS

Attitude : Attitude has been found to affect perceptions, judgements and other cognitive process of the individual as well as selectively orient the person to the sort of propaganda he will voluntarily believe and expose himself to. Attitude on the other hand may be positively or negatively directed. Attitudes are inner feelings or beliefs of an individual towards particular phenomenon.

Pupil Teacher : A student under the direct supervision of teacher educator or professor.

Creative teaching: Creative teaching is the use of innovate techniques while teaching in the class room and teacher should have positive attitude towards creative teaching. In the present study the attitude of B.Ed. students towards creative teaching is measured using an attitude scale (Shukla, 2012).

I.14 OBJECTIVES OF THE STUDY

The following objectives shall be realized through the study :

- 1) To find difference in the attitude of pupil teachers towards creative teaching with respect to their gender (male and female).
- 2) To find difference in the attitude of pupil teachers towards creative teaching with respect to their Stream (i.e., science and arts).
- 3) To find difference in the attitude of pupil teachers towards creative teaching on the basis of interactional effect of gender (male and female) and stream (science and arts) when attitude scores are taken as dependent variable.

I.15 HYPOTHESIS OF THE STUDY

- 1) There is no significant difference in the attitude of pupil teachers towards creative teaching with respect to their gender (male and female).
- 2) There is no significant difference in the attitude of pupil teachers towards creative teaching with respect to their stream (i.e. science and arts).
- 3) There is no significant difference in the attitude of pupil teachers towards creative teaching on the basis of interactional effect of gender (male and female) and stream (science and arts) when attitude scores are taken as dependent variable.

I.16 DELIMITATIONS OF THE STUDY

1. The present study will be confined to B.Ed, M.Ed pupil teachers only.
2. The present study is restricted only to 200 pupil teachers only.
3. The present study is confined only to the pupil teachers of Jammu District.
4. Only 5 institutions are covered in the present study.

CHAPTER II

REVIEW OF RELATED LITERATURE

Before taking up any specific research project in the development of a discipline, the investigator must be thoroughly familiar with previous theory and practice. A review of related literature is one of essential steps for the conduct of research study. It enables the researcher to workout the finer details of his / her research problem. It helps to save time and resources. It is one of the important aspects of a research project “Particularly all human knowledge can be found in books and libraries new with each generation recorded knowledge of the past”.

The “Review of Literature” consists of two words i.e. ‘Review’ and ‘Literature’ the term review means to organize the knowledge of the specific area of research to evolve an edifice of knowledge to show that his/her study would be an addition to this field. In research methodology the term ‘Literature’ means the knowledge of a particular area of investigation of any discipline which includes theoretical, practical and its research studies. The task of review of related literature is highly creative and tedious because researcher has to synthesize; the available knowledge of the field in a unique way to provide the rationales for his/her study.

Education is such a field about which investigator has to have up-to-date information about all the researches, which have been conducted till present and also those, which are under process, the objectives behind survey of related literature is to have through and deep understanding of the topic and also the areas which are left untouched. Related study also enables the investigator to do research on any more related problems and suggestions for further research.

It is very valuable task for an investigator to have a comprehensive survey of what already has been done on the problem and its related studies. “Survey of related literature avoids the risk of duplication, provides details which are valuable in formulating in the problem and contributes to the general scholarship of the investigator” “the orientation provided by a survey or the related research is helpful in making a straight forward statement of need for investigation avoiding two extremes of apologetic attitudes and exaggerated claims”.

The literature review is a major component of the research proposal. It is an analysis of relevant publications that help set the context for define the research topic. The review is always oriented towards narrowing the field to provide a research problem that can guide operational research. The review should be the easiest part of the study for many students because it is quite close in format and style no an essay. A good literature review will be looking for a collection of sources and it should be a coherent argument where to interpret the argument of others. There is an important role in synthesizing different peoples' work on a particular theme and by doing this adding value to this work by presenting in a new light.

II.1 Need for Review of Literature

One of the early steps in planning a research work is to review research done previously in the particular area of interest and relevant area. Quantitative and qualitative analysis of this research usually gives the worker an indication of the direction. It is very essential for every investigator to of be up to date in his information about the literature, related to his own problem already done by others. It is considered to be most importance pre-requisite to actual planning and conducting the study.

It avoids the replication of the study findings to take an advantage from similar or related literature as regards, to methodology, techniques of data collection, procedure adopted and conclusion drawn. The researcher formulates hypotheses on the basis of review of literature. It also provides the rationale for the study. Review of the related literature besides, allowing the researcher to acquaint himself with current knowledge in the field or area.

II.2 Importance of Review of Related Studies

Review is a critical component of any research project, and should commence as early as possible in the process. An investigator needs to know what others have already studied and concluded with respect to the topic or problem at hand. In undertaking the review, the researcher should consider how the study will complement or "fit in" with other studies on the same topic (Picciano,2007). It enables the researcher to be in a line of linking and help to lay a sound foundation for the investigation. To avoid duplication and to make the research more perfect and unique, it is very essential for the researcher to go through and scan the related studies.

The exercise of review allows to understand the contexts of research, to refine the research further and to see how others have approached the task of empirical investigation in terms of methods used (Burnett, 2009). The review of the literature is the basis of most of the research projects in the physical sciences, natural sciences, social sciences and humanities. The importance of the review of related literature are:-

- I. It gives the scholar an understanding of the previous work that has been done.
- II. The result of the review actually provide the data used in research.
- III. It enables us to know the means of getting to the frontier in the

field of our problem.

- IV. A review of the field of the literature would develop the insight of the investigator.
- V. The importance of the review is quite obvious in delimiting the research problem and in defining it better.
- VI. The review of the literature will give the student the insight he needs to convert his tentative research problem to specific and consistent one.
- VII. A review of the literature helps the researcher in making to research possibilities that have been overlooked.
- VIII. In the process of reviewing the literature the student is on the alert for finding out research approaches to be sterile.
- IX. The review of the literature provides us with an opportunity of gaining insight into the methods, measures, subjects and approaches employed by other research workers.

II.3 PURPOSE OF THE REVIEW OF RELATED LITERATURE

The review of the literature is the basis of most of the research projects in the physical sciences, natural sciences, social sciences and humanities. The purpose of

review of related literature is listed below (Shankala, 2007). The survey of related literature serves the following purposes:-

- A review of the related literature gives the scholar an understanding of the previous work that has been done.
- It helps to formulate the problem.
- It provides an opportunity of gaining insight into the methods, measures, subjects and approaches employed by other research workers.
- It suggests methods of research appropriate to the problem.
- In the process of reviewing the literature the student is on the alert for finding out regarding approaches in his area that have proved to be sterile.
- It offers comparative data useful in the interpretation of results.
- It contributes to general scholarship of the investigator.
- A review of the literature can help the researcher in making him alert to research possibilities that have been overlooked.
- The results of the review actually provide the data used in research.
- Review prevents repetition of research.

Hence, review of related literature not only helps researcher for planning of research work, but also provides a degree of familiarity to the researcher with past work done, as well as inputs to the research the vast knowledge pool that has already been tapped. So, it becomes extremely crucial to locate, reveal and evaluate the past research reports.

Therefore, the investigator has tried to collect relevant information related to his topic from literature. The investigator visited a number of libraries, made use of internet and collected materials from Indian and International research abstracts.

Scott and Wetherner (1932) states, “Review of related study may serve to avoid unnecessary duplications and may help to make progress towards the solution of the new problem”.

John W. Best, “Practically all human knowledge can be found in books and libraries. Unlike other animals that must start with each generation, man builds upon the accumulated and recorded knowledge of the past. He constantly adding to the vast store of knowledge makes possible progress in all areas of the human endeavour.”

According to Water R. Borg, “The literature in any field form the foundation of knowledge upon which all future work will be built.”

It is through the review of related studies that would develop an insight and interest of the investigator. Due to the non availability of the literature and shortage of time, the investigator could not collect more studies. In the present investigation, the investigator visited departmental library, university library and on internet site.

The general purpose of the review is to hold the research work for a thorough understanding and insight into the work already done and area left untouched or unexplained. Review of related literature is one of the most important steps in the planning of any research study.

II.4 STUDIES CONDUCTED ON CREATIVE TEACHING

Due to non- availability of literature, the investigator couldn't collect more studies. However, a few and distinct studies which were available have been given as under :

Pushpam (2003) while examining the “Attitude of women teachers towards Creative profession” found significant and positive relationship between attitude of women teachers towards teaching profession and job satisfaction.

Siddiqi (2011) found that boys do not differ significantly in all the variables of verbal creativity, except the measure of originality from the girls.

Kumar (2012) revealed that the private and government school children differ significantly in their creative abilities. The variation in the school environment was found to be the major factor that affected the creative abilities among government school students which is due to lack of opportunities, facilities and encouragement in government schools. Further, gender as a variable could not make any difference among students.

Kumar (2013) in his study attitude of B.Ed. students found that B.Ed. student teachers of science stream have more positive attitude towards creative teaching than arts stream and female student teachers have more positive attitude than student teachers.

Gupta & Jan (2013) made a study on “Attitude of B.Ed. Pupil-Teachers of Science and Arts Streams towards Creative Teaching: A Study”. The study was undertaken to assess and compare the attitude towards creative teaching of B. Ed. Pupil-teachers belonging to science and art streams. A sample of 200 B.Ed. pupil- teachers was drawn by using stratified random sampling technique from 5 colleges of Sambhal district. Attitude towards creative teaching was assessed by employing Attitude Scale of Creative Teaching (Shukla, 2012). The study revealed that B.Ed. students of science stream have more positive attitude towards creative teaching than their counterparts of arts stream where as the female pupil teachers also have positive attitude than the male pupil teachers.

Kumar (2013) conducted a study on” Attitude of B.Ed. Students – towards creative teaching : A study of Science and arts streams teachers”. The study was undertaken to evaluate and measure up to the outlook towards creative teaching of B.Ed student-teachers belonging to science and art streams. A sample of 200 B.Ed. student - teachers was drawn by using stratified

random sampling technique from 5 colleges of Haryana district. Attitude towards creative teaching was assessed by employing Attitude Scale of Creative Teaching (Shukla, 2012). The study revealed that B. Ed. Student-teachers of science stream have more positive attitude towards creative teaching than their counterparts of arts stream where as the female student teachers also have positive attitude than the male student teachers.

Hoeseini (2014) studied “Investigating the impact of the creativity teaching program on teachers’ knowledge, attitude, and skills”. In order to assess how creativity is taught in elementary school period, 120 instructors were participating (60 instructors in a test group and 60 instructors in a control group). The test group became involved in “Teaching of creativity” program so that the impact of the program and training model on instructors’ knowledge, attitude, and skill would be assessed. The results were examined through T test and showed that there is significant difference between the two groups – The “test group” and the “control group”. The results stated the positive impact of the training period.

Suhail Ahmed Khan (2015) found that there is high degree of teaching competency of B.Ed. trainees of Aurangabad City for both male and female trainees.

Sethi and Kaur (2015) conducted a study on “Attitude of pre-service teachers towards Creative Teaching” and found that pre-service teachers of Science stream are more positive towards creative teaching as compared to pre-service teachers of Humanities streams.

Kaur (2016) study is experimental in nature to meet the objectives. A Pre Test (Attitude Scale of Creative Teaching) was employed to the pre service teacher trainees who were admitted to B.Ed. Course. After the regular classes of teachers education programme were scheduled, Macro and Micro teaching skill demonstration as well as theory was taught to pupil teacher as

a part of their curriculum. In the end of the session of the course a post test of the same scale was administered to find out the effect of Teacher Education Programme (B. Ed.). Significances of difference between pre and post score means was worked out to know the differences in the attitudes of pre service teacher trainees towards creative teaching. One way Analysis of Variance was used to know the differences within the groups of pre service teacher trainees of Science, Arts and commerce streams to know their attitude towards creative teaching. A significant difference exists between the scores of Pre Test and post test scores of attitude of pre service teacher trainees of science, Commerce and Arts streams towards creative teaching. The results of the study revealed that pre service teacher trainees of Arts stream had higher attitude towards creative teaching than that of Science and Commerce streams.

Marchetti & Cullen (2016) reported that adopting a multimodal approach with conscious and critical awareness of how and what is being presented as input material, together with a flexibility and willingness to interact in the classroom can indeed lead to fruitful and creative learning.

Katoch (2017) Attitude determines behaviour. Attitude towards creative teaching may find expression in the teacher's behaviour towards students and his methods of teaching. For the present study a sample of 94 school teachers were selected randomly. Tool prepared and standardized Shukla was employed to analyze the attitude of teachers towards creative teaching. To find out the significance of difference between the various groups, 't'-test was applied. The results indicated that school gender-wise and type of management of school, all school teachers do not differ significantly in their attitude towards creative teaching.

Niwas (2018) results in this study revealed that Teaching Competency and attitude towards creative teaching has difference exists in percentage of trainee-teachers. The teaching competency of trainee-teachers is found a

significance differences between the Pedagogical groups. Attitude of trainee-teachers towards creative teaching mean have significant difference exists in their Gender, Caste, and Qualifications bases. The influence of teacher training programme on attitude towards creative teaching of Science stream is highest with the comparison of Humanities streams trainee-teachers. Find a positive relation in teaching competency with attitude of trainee teachers towards their creative teaching.

Kunjalata Baro (2019) study revealed that there is significant difference between the attitude towards creative teaching of B.Ed. student teachers belonging to science and arts streams. But it also found that there is no significant difference between the attitude towards creative teaching of male and female B.Ed. student teachers in the both stream.

Afu (2020) study concludes that the attitude of teacher towards creativity and creative students is negative. The study established also that the creative performance of students is below average which suggests that the attitude of teachers have the effect of students' creative ability. It was recommended that there is a need for the government make creativity an essential aspect of the curricula to come up with creative products and innovations amongst students in the Federal Capital Territory, Abuja; Teachers should improve their attitude towards creative students in senior secondary schools in the Federal Capital Territory, Abuja.

Begum (2020) findings of the results, it can be said that teacher's effective teaching is significantly related with the attitude towards teaching profession. From the results it is very clear that male and female teacher's attitude towards teachings have no significant difference as well as in teaching effectiveness between male and female have no significant difference. Therefore it can be concluded that between teacher effective teaching and attitude towards teaching has a significant relationship.

Žydžiūnaitė and Arce (2021) findings showed that the passion-driven professional duty integrates being an ambitious professional, being professional through ethical and moral actions, endeavouring to discover students' learning needs, designing learning environments, being coherent with school philosophy, and testing for improvement. Findings showed that a teacher's innovativeness and creativeness are directed to the self, professional actions, students, school, and professional development. Conclusions are focused on empirical facts that innovative and creative teachers experience the meaning of their practices through duties, which they perform with passion. Teachers' innovativeness and creativity are related to ethical, moral, professional, intellectual, social, institutional, individual, and profession needs.

CHAPTER - III

METHODS AND PROCEDURE

For the study and solution of every problem in education, one has to undertake many steps in a well regulated order. After selecting a problem, research procedure has to be adopted for arriving at valid conclusions. The investigation is required to discuss and the selected sample and procedure employed.

The order of discussion of these aspects is given below :-

1. Research Method used
2. Variables studied
3. Sampling
4. Selection of tools
5. Description of tool
6. Administration of tool
7. Scoring procedure
8. Statistical technique applied.

III.1 RESEARCH METHOD USED

There are basically three types of method in educational research:

- 1) Historical Method
- 2) Experimental Method
- 3) Descriptive Method or Normative Survey Method

The survey approach to educational problem is one of the most commonly used approaches. It is used in studying local as well as state, national and international aspects of education. It involves interpretation, comparison, classification, evaluation and generalization; all are directed towards proper understanding and solution of significant educational problems.

As for the present study, the investigator decided to adopt the descriptive survey method of research to measure the attitude of pupil teachers towards creative teaching.

III.2 VARIABLES STUDIED

The following variables were studied in the present research.

a) Independent variable :

- i) Gender : Male and Female.
- ii) Stream : Science and Arts.

b) Dependent Variable :

Attitude Scale Scores.

III.3 SAMPLING

Sampling is the basis of all statistical methodology of research. The investigator can never collect data from the whole population in any investigation. The investigator has to take selected groups of individuals who would represent the whole population and form the basis for making reference of certain population of facts. This is known as sampling. The

size of sample varies from study to study, method and nature of population.

It is easier, less time consuming than the whole population.

The sample is used in collecting the research data. So sampling is fundamental to all statistical methodology of research. A good sample will produce a result very much approaching the population and generalization would be effective. It is a tool, which enable us to draw conclusions about the characteristics of the population, after studying only those subjects that are included in a sample. Sampling is both advantageous and essential. It saves the investigator's time money and energy.

In the present study the sample of 150 pupil teachers were selected from different institutions of Jammu by using simple random sampling technique.

The researcher distributed attitude scale to all the pupil teachers but co-operation could be sought from the number shown in the table given:

Table 3.1 Showing the details of sample selected:

S.No.	Name of the College	Male	Female	Total
1.	Govt. College of Education, Jammu	15	15	30
2.	Vishwa Bharti College of Education	15	15	30
3.	Gandhi Memorial College of Education, Bantalab	15	15	30
4.	Ranjeet College of Education	15	15	30
5.	M.C. Khalsa College of Education	15	15	30
	Total	75	75	150

III.4 SELECTION OF TOOL

For every type of research, the researcher needs certain instrument to gather new facts. The selection of a suitable instrument or tool is of vital importance for any successful research which depends upon the nature of the problem. It is the selection of the appropriate tool which enables the researcher to arrive at certain generalization about the problem.

Research tools are of many kinds. Each tool is particularly appropriate for certain sources of data yielding information of the kinds and in the form that should be most effectively used.

For the present study, only one type of attitude scale was used to collect the required data. The main theme was to know the attitude of

pupil teachers towards creative teaching. In the present investigation, the investigator used **Dr. R.P Shukla** attitude scale based on Likert scale as a tool for creative teaching attitude scale.

The method (**Likert Scale**) does away with the necessity of submitting items to the judges. After editing the items are given to a group of subjects for responding to each one in terms of their agreement or disagreement. The number of favourable and unfavourable statements should be approximately equal. Usually 1-5 scale of responses is used. The actual Likert scaling technique has a 5 point scale position being assigned to scale value.

It yields reliabilities high as those obtained by other techniques with fewer items. There seems to be agreement on the simplicity of the Likert method and the time needed for its construction. It is less laborious than the developed by Thurston.

III.5 RELIABILITY AND VALIDITY

Reliability

The Reliability of the test has been scored by Test re-test method over a period of three weeks on a sample of 200 B.Ed. trainees of different colleges of education at Gwalior and in found to be 0.67. The co- efficient of correlation were calculated Dimension-wise and for the full sample.

Validity

The test is valid, as the items have been taken from E.P Torrance's 62 traits of students after trying out and calculating discriminating value of each statement. Torrance has studied these traits on four nations including India and hence the test items have construct validity.

III.6 ADMINISTRATION OF THE TOOL

Due to covid-19 pandemic, the investigator cannot visited the different institutions personally for the collection of data. So the investigator firstly makes the google form of the tool. Then send the google form to different institutions of Jammu on their official email id and informed them that their responses will be kept confidential and therefore they should be frank, honest, bold and sincere while answering the question. In this way, the test was administered in all the selected institutions students and thus data was collected.

III.7 SCORING PROCEDURE

After collection of data the first thing done was scoring. The following scheme was used for scoring the responses.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Positive	1	2	3	4	5
Negative	5	4	3	2	1

III.8 STATISTICAL TECHNIQUES USED

In present study, the investigator was concerned with following techniques:

In this study, the statistical technique Two - way ANOVA was used to see the significance of difference between the gender and locality towards creative teaching.

CHAPTER – IV

ANALYSIS AND INTERPRETATION OF DATA

One of the most important steps in any research project is the organization, analysis and interpretation of data. The tabulated data has no meaning unless it is analysed and interpreted by some suitable statistical technique so as to arrive at significant conclusion.

Analysis of data means studying the tabulated data in order to determine inherent facts or meanings. It involves the breaking up of the complex factors into simpler parts and putting them together for the purpose of the interpretation. The interpretation of data helps the investigator to analyze the same problem or the related problem with appropriate statistical techniques without wasting their labour. After the collection of data, it must be analyzed properly so as to draw proper inferences. It must be carefully edited, systematically analyzed, intelligently interpreted and rationally concluded.

The purpose of interpretation is essentially to know – what do the results show? What do they mean? What is their significance, etc. So, the interpretation is considered to be the most important step in the total procedure of research.

IV.1 ASSUMPTIONS OF ANALYSIS OF VARIANCE

Analysis of variance (ANOVA) is a powerful statistical technique or tool used to test the homogeneity of several means. It was developed by R.A. Fisher; an English Statistician in 1920's who was also considered to be the father of modern statistics. It is an economical method of testing significant difference between the means of two groups. It is the simplest form, the analysis of variance is used to test the significance of the differences between two or more groups. According to Fisher, "Analysis of variance (ANOVA) is the separation of variance ascribable to our group of causes from variance ascribable to other groups."

Following are the important assumptions of Analysis of variance : -

- 1) **Independence of Groups :-** It is assumed that the groups selected should be made up of randomly selected subjects and are independent.
- 2) **Homogeneity of variance :-** It is assumed that the population from which groups have been selected have equal variances. In symbols, it is presented as,
$$\sigma^2_1 = \sigma^2_2 \dots\dots\dots \sigma^2_k$$
- 3) **Normality of Distribution :-** The sample selected from the population should have normal distribution.
- 4) **Additivity :-** It has been stated that the total variance is obtained due to sum of two or other sources of variances i.e. variations.

IV.2 ADVANTAGES OF ANALYSIS OF VARIANCE

Following are the advantages of ANOVA :-

- 1) Analysis of variance helps to compare all the groups or any number of comparison in a single test.
- 2) It is a time saving and also involves less risk of errors, i.e., when we reject the null hypothesis at small variance to be significant at .05 level.
- 3) The results obtained through analysis of variance are understandable and interpretable.
- 4) It is a powerful statistical technique for testing significance of mean difference.
- 5) The analysis of variance is useful when there are more than two groups to be compared for testing significance of mean difference.

IV.3 SELECTION OF THE STATISTICAL TECHNIQUE OF ANALYSIS

In the present investigation, the investigator was interested to find out the difference in the attitude of pupil teachers towards creative teaching.

In view of these considerations, the technique of two way ANOVA was used to realize the objectives of the study. The use of ANOVA was considered as the most appropriate technique.

IV.4 ANALYSIS OF VARIANCE

In the present study, the two – way analysis of variance technique is applied to the data of attitude scores with the factorial design as 2x2 factorial matrices with Creative teaching, as criteria, which was studied in relation to stream (arts and science) & gender (male and female).

IV.5 GENERAL COMPUTATIONAL STEPS FOR COMPUTATION OF TWO WAY ANOVA

Following are the general computational steps employed in two way ANOVA:

Step I. Correction or C = $\frac{(\sum X_T)^2}{N_T}$

Step II. Sum of squares for total (SS_T)

$$SS_T = \sum X_T^2 - C$$

Step III. Sum of squares for A (SS_A)

$$SS_A = \frac{(\sum A_1)^2}{NA_1} + \frac{(\sum A_2)^2}{NA_2} - C$$

Step IV. Sum of squares for B (SS_B)

$$SS_B = \frac{(\sum B_1)^2}{NB_1} + \frac{(\sum B_2)^2}{NB_2} - C$$

Step V. Sum of squares for Between cells ($SS_{\text{Bet. cells}}$)

$$SS_{\text{Bet. cells}} = \frac{(\sum A_1 B_1)^2}{N_1} + \frac{(\sum A_1 B_2)^2}{N_2} + \frac{(\sum A_2 B_1)^2}{N_3} + \frac{(\sum A_2 B_2)^2}{N_4} - C$$

Step VI. Sum of squares for Interaction (SS_{AxB})

$$SS_{AxB} = SS_{Bet} - (SS_A + SS_B)$$

Step VII. Sum of squares for within (SS_W)

$$SS_W = SS_T - SS_{Bet. cells}$$

Summary of Two – Way ANOVA

Sources of variance	SS	DF	MS	F	Level of Significance
A (Columns)					
B (Rows)					
AxB (Columns & Rows)					
Within					

COMPUTATION OF TWO WAY ANOVA

In this study, the researcher was interested to study the differences in the attitude of pupil teachers towards creative teaching.

Table 4.1 Showing scores of attitude of pupil teacher towards creative teaching

	Stream	Gender		
		Male (A ₁)	Female (A ₂)	
Type of Institution	(B₁) Arts	127	124	
		125	135	
		158	144	
		162	111	
		116	131	
		139	131	
		117	123	
		123	138	
		132	130	
		133	145	
		$\Sigma A_1 B_1 = 1332$ $N_1 = 10$	$\Sigma A_2 B_1 = 1312$ $N_3 = 10$	$\Sigma B_1 = 2644$ $NB_1 = 20$
	(B₂) Science	112	132	
		141	132	
		140	142	
		137	100	
		130	145	
		135	144	
		134	117	
		142	106	
		121	126	
124		132		
	$\Sigma A_1 B_2 = 1316$ $N_2 = 10$	$\Sigma A_2 B_2 = 1276$ $N_4 = 10$	$\Sigma B_2 = 2592$ $NB_2 = 20$	
	$\Sigma A_1 = 2648$	$\Sigma A_2 = 2588$	$\Sigma X_T = 5236$	

		$NA_1 = 20$	$NA_2 = 20$	$N_T = 40$
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Step I. Correction or $C = \frac{(\sum X_T)^2}{N_T}$

$$= \frac{(5236)^2}{40} = \frac{27415696}{40}$$

$$= 685392.4$$

Table 4.2 Showing squares of the scores.

Locality	Gender		
	Male (A_1^2)	Female (A_2^2)	
(B₁)² Rural	16129	15376	
	15625	18225	
	24964	20736	
	26244	12321	
	13456	17161	
	19321	17161	
	13689	15129	
	15129	19044	
	17424	16900	
	17689	21025	
	$\Sigma A_1^2 B_1^2 =$ 179670	$\Sigma A_2^2 B_1^2 =$ 173078	
(B₂)² Urban	12544	17424	
	19881	17424	
	19600	20164	
	18769	10000	
	16900	21025	
	18225	20736	
	17956	13689	
	20164	11236	

	14641	15876	
	15376	17424	
X^2	$\Sigma A_1^2 B_2 =$ 174056	$\Sigma A_2^2 B_1 =$ 164998	$\Sigma X^2_T = 691802$

Step II. Sum of squares for Total (SS_T)

$$SS_T = \Sigma X^2 - \frac{(\Sigma X_T)^2}{N_T} \text{ or C}$$

$$SS_T = 691802 - 685392.4$$

$$SS_T = 6409.6$$

Step III. Sum of squares for A (SS_A)

$$SS_A = \frac{(\Sigma A_1)^2}{NA_1} + \frac{(\Sigma A_2)^2}{NA_2} - \frac{(\Sigma X_T)^2}{N_T} \text{ or C}$$

$$= \frac{(2648)^2}{20} + \frac{(2588)^2}{20} - 685392.4$$

$$= \frac{7011904}{20} + \frac{6697744}{20} - 685392.4$$

$$= 350595.2 + 334887.2 - 685392.4$$

$$= 685482.4 - 685392.4$$

$$SS_A = 90$$

Step IV. Sum of squares for B(SS_B)

$$\begin{aligned}
 SS_B &= \frac{(\sum B_1)^2}{NB_1} + \frac{(\sum B_2)^2}{NB_2} - \frac{(\sum X_T)^2}{N_T} \text{ or C} \\
 &= \frac{(2644)^2}{20} + \frac{(2592)^2}{20} - 685392.4 \\
 &= \frac{6990736}{20} + \frac{6718464}{20} - 685392.4 \\
 &= 349536.8 + 335923.2 - 685392.4 \\
 &= 685460 - 685392.4
 \end{aligned}$$

$$SS_B = 67.6$$

Step V. Sum of squares for Between cells (SS_{Bet.cells})

$$\begin{aligned}
 SS_{\text{Bet.cells}} &= \frac{(\sum A_1 B_1)^2}{NA_1 B_1} + \frac{(\sum A_1 B_2)^2}{NA_1 B_2} + \frac{(\sum A_2 B_1)^2}{NA_2 B_1} + \frac{(\sum A_2 B_2)^2}{NA_2 B_2} - \frac{(\sum X_T)^2}{N_T} \\
 &= \frac{(1332)^2}{10} + \frac{(1316)^2}{10} + \frac{(1312)^2}{10} + \frac{(1276)^2}{10} - 685392.4 \\
 &= \frac{1774224}{10} + \frac{1731856}{10} + \frac{1721344}{10} + \frac{1628176}{10} - 685392.4 \\
 &= 177422.4 + 173185.6 + 172134.4 + 162817.6 - 685392.4 \\
 &= 685560 - 685392.4
 \end{aligned}$$

$$SS_{\text{Bet.. cells}} = 167.6$$

Step VI. Sum of squares for interaction (SS_{AxB})

$$SS_{AxB} = SS_{\text{Bet.cells}} - (SS_A + SS_B)$$

$$= 167.6 - (90 + 67.6)$$

$$= 167.6 - 157.6$$

$$SS_{A \times B} = 10$$

Step VII. Sum of squares for within (SS_W)

$$SS_W = SS_T - SS_{\text{Bet.cells}}$$

$$= 6409.6 - 10$$

$$= 6399.6$$

Table 4.3 : Showing the summary of ANOVA for 2x2 Factorial Design

Source of variance	SS	Df	MS	F	Level of Significance
A (Gender)	90	1	90	0.50	Not significant
B (Stream)	67.6	1	67.6	0.38	Not significant
AxB	10	1	10	0.056	Not significant
Within	6399.6	36	177.76		

Interpretation

The F- ratio for the factor 'A' Gender (i.e. male & female) came out to be 0.50 & the table value for significant came out to be are 4.11 and 7.39 at .05 & .01 level of significance against df 1 and 36. It means, that there is no significant difference in the attitude of pupil teachers towards creative teaching belonging to different 'gender' (i.e. male and female) towards

creative teaching. Hence the null first hypothesis of no difference is accepted.

The F-ratio for the factor 'B' Stream (i.e. arts & science) came out to be 0.38 and the table value for the same came out to be 4.11 & 7.39 at .05 & .01 level of significance against df 1 and 36 which is not significant. It means, that female & male belonging to different stream (arts and science) do not differ significantly in their attitude towards creative teaching. Hence hypothesis second that there will be no significant difference in the attitude of pupil teachers towards creative teaching belonging to different stream (i.e. arts and science) towards creative teaching is accepted.

The F-ratio for interaction (AxB), i.e., Gender & Stream has been found to be 0.056 which is less than table value 4.11 & 7.39 against df 1 and 36 level of significance. It indicates that under joint influence of Gender and Stream there is no significant difference in the pupil teachers towards creative teaching. Hence 3rd hypothesis that there will be no significant difference in the attitude towards creative teaching under joint influence of gender and (male and female) and stream (i.e. arts and science) is accepted.

CHAPTER – V

CONCLUSIONS, EDUCATIONAL IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

V.1 CONCLUSIONS

The following general conclusions are drawn on the basis of the present study:

- 1) There is no significant difference in the attitude of pupil teachers towards creative teaching with respect to their gender (male and female).
- 2) There is no significant difference in the attitude of pupil teachers towards creative teaching with respect to their stream (i.e., arts & science).
- 3) There is no significant difference in the attitude of pupil teachers towards creative teaching on the basis of interactional effect of gender (male and female) and stream (arts and science) when attitude scores are taken as dependent variable.

V.2 EDUCATIONAL IMPLICATIONS

Very important educational implications emanate from the present study are:

- 1) Teachers must try to use creative techniques and not just because it helps the teacher in many areas like evaluation of student's performance, classification of children according to abilities,

preparation of time-table and schedules, providing immediate feedback to students for better interaction and motivation etc.

- 2) Creative teaching helps the teacher to deliver instruction and fulfil student's needs more efficiently.
- 3) In Creative teaching, teachers feel more satisfied because they are able to teach better and also they are free to work and they collect a lot of information.
- 4) The finding of the research is useful for policy makers, educationists and educational planners. To know about the attitudes towards creative teaching among pre-services teachers. On the basis of this study they can modify their present policies to increase problem solving abilities among pre - service teachers.
- 5) Present will help the educational institutions and teacher educators to organize various co-curricular activities to enhance critical thinking and problem solving abilities among pre services teachers of different stream.
- 6) If the teachers are creative, they can achieve a creative interaction between the teacher and learner as well as learning environment & learning material.
- 7) Creative teachers understand the nature of creativity in light of their abilities of their students.

- 8) They should use various activity based techniques to create interest among students.

V.3 SUGGESTIONS FOR FURTHER RESEARCH

The following suggestions may be incorporated for further research.

1. The present study cannot be called as final or comprehensive final more work can be done on different samples.
2. The present study was confined only to the sample of 150 students. Hence, it is suggested that some type of further investigation can be conducted on more than 150 students.
3. The study can be carried out in other universities also.
4. The present study was limited to 5 colleges and it is suggested that university can be taken for study also.
5. The present study was confined to two variables (gender and stream) only. A study may also be undertaken to know the attitude of other variables like locality on creative teaching.
6. The present study was confined to Jammu District only. A study can be undertaken in other districts also.

SUMMARY

A) INTRODUCTION

The strength of education system largely depends upon the quality of teachers who sustain it. The teaching Profession is universally regarded not only as one of the most important profession of civilized life, but also the noblest of all. The Main function of teacher education programme is to provide appropriate inputs to the prospective teachers so that they acquire the necessary insight and skills which enable them to become effective teachers which Indian society needs so intensely. Dr. Radhakrishnan (1949) has aptly observed in this context, “The teacher’s place in the society is of vital importance. He acts as the pivot for the transmission of intellectual, traditional and technical skills from generation to generation and helps to keep the lamp of civilization burning.” It is the quality of teacher, which creates excellence in all walks of life. Thus, the teachers are the real architects of a nation. Therefore, teacher’s performance is a crucial factor in the field of education. Importance of Teaching Profession is reflected in the words of Aristotle “Those who educate children well are to be honoured more than those who produce children give them only life but those who educate them give them the art of living well.” The teacher is single most important factor responsible for the success, reforms and the advancements of educational programs. Teacher education is no longer a training process

but an education strategy for enabling teacher to teach and concern for their well-being. A sound program for professional education of teachers is essential for the qualitative improvement of education which is possible through creative teaching.

B) MEANING OF CREATIVE TEACHING

Creative teaching is a kind of teaching style that increase level of motivation and self esteem on the part of learner and to prepare them with flexible skills they need for the future developing the capacity to be creative is believed to have the potential to enrich lives and helped contribute to a better society teaching children is an act an enthusiastic teacher find joy in teaching the children the teaching experience is become more enjoyable every teacher craves for creative methods and new teaching techniques teaching with appropriates teaching aid is proven effective method of teaching there are many ads available to assist the teacher which make the blackboard and computer as secondary media for teaching creative teaching facilitate the teachers by providing handsome experiences with realist teaching aids designed with negligible cost guided by a renowned personalities in the field of education effective utility of properly designed teaching manual plate and AIDS enhance the ability of teachers and makes the children to love learning.

C) IMPORTANCE OF CREATIVE TEACHING

Every child has the ability in them to be creative and this may manifest itself in many different ways the role of teacher is crucial in providing a safe environment where is child feels as though you are able to express their creativity explore it and understand it significance to it is only in i recent times that creativity has been understood to be a noteworthy part of child development and research has been proven that creativity is a useful tool for expressions and for understanding once thought feeling as well as those of others creativity however cannot just happen in its own Accord it need to be checked out to be cultivated and it is the role of the teacher to encourage and allow time for that to happen with each and every student the importance of creativity e in teaching can be understood in following heads

- 1 Creativity is multidisciplinary not only we practice creativity through many different mediums its benefits are applicable to almost all professions.
2. Creativity allows you to express yourself an integral part of the human conditions involves learning who we are and recognising how that fits into the rest of the world creativity allows self-discovery as well as the opportunity to share a hidden side of ourselves.

3. Creativity promotes thinking and problem solving from technical details of writing drawing for composing to the challenge of creating problem solving is a required component of the creative process.
4. Creativity reduce stress and anxiety people usually Pashu creative project because enjoy the process are the outcome just the act of creating inspire a sense of contentment
5. Creativity allows you to enter your happy and have fun creativity is really another form of play and joy is universally important to each individual sense of joy and wellbeing
6. Creativity gives you a sense of purpose writers artists and musician of an identified by those Birds whether they make money at the aircraft or not their creative method is there way of processing the world and every of discovering who they are
7. Creativity can lead to the feeling of accomplishment and Pride the combination of brainstorming the technical process and if list process is often the project recipe for personal satisfaction
8. Creativity can like you to others with the same passion it is important because it fosters a sense of connection and understanding of what it means to be human creative focus can help you find your community and feel less alone in the world.

D) ASPECTS OF CREATIVE TEACHING

It has now become important that at primary school level teacher must adopt the various forms of creative teaching for more and more productive learning outcomes. It is also quoted in NCF 2005 that Quality Learning is a generative process of representing and manipulating concrete thing and mental representations, rather than storage and retrieval of information. A motive of establishment of knowledge based society is the ultimate quest for quality teaching. The quality teaching can be achieved through creative teaching approach. J. Agarwal mentions following essential aspects of creative teaching-

A. Creative thoughts- Teacher should encourage students to read and write all their thoughts and evaluate them critically and analytically.

B. Creative Questioning- Teacher should ask open ended questions to bring out wide range of responses.

C. Divergent Thinking- Teacher should inculcate a habit of searching for different ways of organizing the knowledge.

D. Productive Opportunities- Teacher should encourage students to develop heuristic attitude and promote talks that are explorative and hypothetical.

E. Appreciation- Teacher should appreciate learners for their imagination, inquisitiveness and spirit of enquiry.

F. Decision Making- Teacher should provide opportunities for choice and independent decision making among learners.

G. Sharing Intellect- Teacher should encourage students to learn from other student's questions and responses as well as comments.

H. Providing risk- taking atmosphere- Teacher should create such an atmosphere in a classroom or instructional place that enhances risk taking attitude of learner. If teachers are able to create such creativity-fostering atmosphere, the rest will be done by the atmosphere itself

I. Avoiding De-motivation- Teacher should not de-motivate students as it leads into creation of unproductive mental state.

J. Interesting Assessment techniques- Teacher should promote assessment as part of teaching-learning process which will not be a burden or matter of phobia to the students.

K. Innovative assignments- Teacher should give activity and skill based challenging assignments that discourages habit of rote memorization.

E) BENEFITS OF CREATIVE TEACHING

- (a) Encourages children to become independent in their learning and thinking skills.
- (b) Enables children to look past the norm.
- (c) Allows children to further their thinking so they are not 'stuck inside the box'.

(d) Supports child led discovery, with support from the teacher.

'Limitations can be a good thing to motivate creativity' (Bartel 2008)

(e) Gives children a attitude to create and try something new

F) MEANING OF ATTITUDE

Attitude is one of the most useful concepts that psychologists evolved to deal with the organization of experience and behaviour. Attitudes are learned largely through socialization process and interaction with other people. Attitudes are inner feelings and beliefs of an individual towards a particular phenomenon. Attitude is the most useful concept with which psychologists get involved to deal with the organization of experience and behaviour. An attitude is relatively enduring organization of beliefs around an object or situations in predisposing manner. Attitudes are closely related to opinions. It is all due to experimental psychology that attitude is brought to conscious level.

Thurstone (1946) defined an attitude as “the intensity of positive or negative effect for or against psychological objects.”

G.W. Allport (1953) has defined, “an attitude as a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon individual’s response to all objects with it is related.”

Allport’s definition implies that attitude refers to a general state of readiness.

Sarnoff (1962) has given a very short cut idea about the attitude. He states, “It is a disposition to react favourably to a class or subject.”

According to Rosenberg, “An attitude is a relatively stable response to an object”.

Guilford defines attitude as the, “tendency to favour or not to favour some type of object or situation.”

According to Frank Freeman, “An attitude is disposition readiness to respond to certain institutions, persons or objects in a consistent manner which has been, learned and has become one’s typical mode of response. An attitude has a well-defined object or reference, e.g. one’s views regarding class of food or drink (such as fish and liquors), sport; or democracy are attitudes.”

G) COMPONENTS OF ATTITUDE

There are three components of attitude. These are: (a) Cognitive, (b) Affective and (c) Behavioural.

- a) Cognitive includes person’s perceptions, beliefs and stereotypes. Opinions are substitutes for cognitive component.
- b) Affective component includes the vigorous emotional feelings.
- c) Behavioural component consists of the tendency to act or react to object in certain ways. Attitude depends upon the environment in which the individual lives. It does not develop abruptly. The development of attitude is a slow process, this object and some

degree of this object and some degree of individual's environment with the object.

H) CHARACTERISTICS OF ATTITUDE

1. Attitude is inferred from the way individuals behave which could include the behaviour of filling out an attitude questionnaire.
2. Attitude is directed towards psychological object or category people categorize in different ways. One's own conceptual system (schema) determines how one categorise the object towards which attitude is directed.
3. Attitude is learned because it follows changes. Finally attitudes influence behaviour "holding an attitude towards an object give some areas on how to behave towards the object in a certain way.
4. Attitude has motivational and evaluative properties.
5. Attitude is relatively stable.

Attitude is closely related to opinions. A distinction can be made however; a person can state his opinion in words but may not be able to express his attitude in the same way. He will reveal his attitude by his action and only indirectly by the content of his statements.

Attitude is also related to prejudices. A prejudice is rigidly fixed. Attitude becomes a prejudice when the predisposition is so strong that no attention is paid to evidence that might call for a changed reaction.

An attitude is an inferred (not directly observed) intervening variable, but it is reflected in such activity as judgments, choices and actions. Attitude has objects, people, things or issues, towards which they are addressed. Attitudes have four dimensions; intensity, direction, extensity and duration. Each of these aspects influences the behaviour of an individual.

I) SIGNIFICANCE OF THE PRESENT STUDY

Education is the process of helping the child to adjust to the changing world. Since education is viewed as an instrument to develop the cognitive qualities and understanding of peoples should be fully equipped with certain skills of teaching as well as they might have knowledge of sociological, philosophical, as well as teaching learning process for this B.Ed course of teacher education programme is a very good programme for shaping teacher trainees into creative teachers. It has been recognized that schools and initial education play a key role in fostering and developing people's creative and innovative capacities for further learning and their working lives. Moving now to look at student teachers and their creativity, we need to find out about their conceptualizations of creativity, their sense of identity as creative individuals and their experience of creativity in schools. These are a vital concern in Teacher Education because they are the basis of their meaning making. In doing so, we also need to recognise that professional identity is not a stable entity – not fixed or unitary, but relational and situated. NCTE (1998) has

pointed out that teacher education programs should focus on competencies and commitment in much greater magnitude which can enhance the creativity among Pre-Service Teachers. The investigator is curious to find out the differences in the attitude of pre service teacher trainees towards creative teaching. The results of the present study can be used in this direction to enhance the creative potential among the pre service teacher trainees by introducing various curriculum modules that in turn may be helpful in enhancing creative potential among the students. In order to develop creative teaching learning approaches, it is crucial that teacher training prepares new teachers to become reflective practitioners able to discern how a teaching method or activity can stifle or trigger creativity among their students.

H) STATEMENT OF THE PRESENT STUDY

The problem undertaken for present study is stated as under :

“A STUDY OF ATTITUDE OF PUPIL TEACHER TOWARDS CREATIVE TEACHING”

I) OPERATIONAL DEFINITIONS

Attitude : Attitude has been found to affect perceptions, judgements and other cognitive process of the individual as well as selectively orient the person to the sort of propaganda he will voluntarily believe and expose himself to. Attitude on the other hand may be positively or negatively

directed. Attitudes are inner feelings or beliefs of an individual towards particular phenomenon.

Pupil Teachers : A student under the direct supervision of teacher educator or professor.

Creative teaching: Creative teaching is the use of innovate techniques while teaching in the class room and teacher should have positive attitude towards creative teaching. In the present study the attitude of B.Ed. students towards creative teaching is measured using an attitude scale (Shukla, 2012).

J) OBJECTIVES OF THE STUDY

The following objectives shall be realized through the study :

- 1) To find difference in the attitude of pupil teachers towards creative teaching with respect to their gender (male and female).
- 2) To find difference in the attitude of pupil teachers towards creative teaching with respect to their stream (i.e., arts & science).
- 3) To find difference in the attitude of pupil teachers towards creative teaching on the basis of interactional effect of gender (male and female) and stream (arts and science) when attitude scores are taken as dependent variable.

K) HYPOTHESES OF THE STUDY

- 1) There is no significant difference in the attitude of pupil teachers towards creative teaching with respect to their gender (male and female).
- 2) There is no significant difference in the attitude of pupil teachers towards creative teaching with respect to their stream (i.e., arts & science).
- 3) There is no significant difference in the attitude of pupil teachers towards creative teaching on the basis of interactional effect of gender (male and female) and stream (arts and science) when attitude scores are taken as dependent variable.

L) DELIMITATIONS OF THE STUDY

1. The present study will be confined to B.Ed, M.Ed pupil teachers only.
- 2 The present study is restricted only to 150 pupil teachers only.
2. The present study is confined only to the pupil teachers of Jammu District.
3. Only 5 institution are covered in the present study.

M) VARIABLES STUDIED

The following variables were studied in the present research.

a) Independent variable :

- i) Gender : Male and Female

ii) Stream : Arts and Science

b) **Dependent Variable** : Attitude Scale Scores

N) SAMPLING

Sampling is the basis of all statistical methodology of research. The investigator can never collect data from the whole population in any investigation. The investigator has to take selected groups of individuals who would represent the whole population and form the basis for making reference of certain population of facts. This is known as sampling. The size of sample varies from study to study, method and nature of population. It is easier, less time consuming than the whole population.

In the present study the sample of 150 pupil teachers were selected from different institutions of Jammu by using simple random sampling technique.

Table 1: Showing the details of sample selected.

S.No.	Name of the College	Male	Female	Total
1.	Govt. College of Education, Jammu	15	15	30
2	Vishwa Bharti College of Education	15	15	30
3	Gandhi Memorial College of Education, Bantalab	15	15	30
4	Ranjeet College of Education	15	15	30
5	M.C. Khalsa College of Education	15	15	30
	Total	75	75	150

O) SELECTION OF TOOL

For every type of research, the researcher needs certain instrument to gather new facts. The selection of a suitable instrument or tool is of vital importance for any successful research which depends upon the nature of the problem. It is the selection of the appropriate tool which enables the researcher to arrive at certain generalization about the problem.

Research tools are of many kinds. Each tool is particularly appropriate for certain sources of data yielding information of the kinds and in the form that should be most effectively used.

For the present study, only one type of attitude scale was used to collect the required data. The main theme was to know the attitude of pupil teachers towards creative teaching. In the present investigation, the investigator used Dr. R.P Shukla attitude scale based on Likert scale as a tool for creative teaching attitude scale.

The method (**Likert Scale**) does away with the necessity of submitting items to the judges. After editing the items are given to a group of subjects for responding to each one in terms of their agreement or disagreement. The number of favourable and unfavourable statements should be approximately equal. Usually 1-5 scale of responses is used. The

actual Likert scaling technique has a 5 point scale position being assigned to scale value.

It yields reliabilities high as those obtained by other techniques with fewer items. There seems to be agreement on the simplicity of the Likert method and the time needed for its construction. It is less laborious than the developed by Thurston.

P) RELIABILITY AND VALIDITY

Reliability

The Reliability of the test has been scored by Test re-test method over a period of three weeks on a sample of 200 B.Ed. trainees of different colleges of education at Gwalior and in found to be 0.67. The co- efficient of correlation were calculated Dimension-wise and for the full sample.

Validity

The test is valid, as the items have been taken from E.P Torrance's 62 traits of students after trying out and calculating discriminating value of each statement. Torrance has studied these traits on four nations including India and hence the test items have construct validity.

Q) ADMISTRATION OF THE TOOL

Due to covid-19 pandemic, the investigator cannot visited the different institutions personally for the collection of data. So the investigator firstly makes the google form of the tool. Then send the google form to different

institutions of Jammu on their official email id and informed them that their responses will be kept confidential and therefore they should be frank, honest, bold and sincere while answering the question. In this way, the test was administered in all the selected institutions students and thus data was collected.

R) SCORING PROCEDURE

After collection of data the first thing done was scoring. The following scheme was used for scoring the responses.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Positive	1	2	3	4	5
Negative	5	4	3	2	1

S) STATISTICAL TECHNIQUES USED

In present study, the investigator was concerned with following techniques:

In this study, the statistical technique Two way ANOVA was used to see the significance of difference between the gender and stream towards creative teaching.

T) ANALYSIS AND INTERPRETATION OF DATA

Table A : Showing the summary of ANOVA for 2x2 Factorial Design

Source of variance	SS	Df	MS	F	Level of Significance
A (Gender)	90	1	90	0.50	Not significant
B (stream)	67.6	1	67.6	0.38	Not significant
AxB	10	1	10	0.056	Not significant
Within	6399.6	36	177.76		

Interpretation

The F- ratio for the factor 'A' Gender (i.e. male & female) came out to be 0.50 & the table value for significant came out to be are 4.11 and 7.39 at .05 & .01 level of significance against df 1 and 36. It means, that there is no significant difference in the attitude of pupil teachers towards creative teaching belonging to different 'gender' (i.e. male and female) towards creative teaching. Hence the null first hypothesis of no difference is accepted.

The F-ratio for the factor 'B' Stream (i.e. arts & science) came out to be 0.38 and the table value for the same came out to be 4.11 & 7.39 at .05 &

.01 level of significance against df 1 and 36 which is not significant. It means, that female & male belonging to different stream (arts and science) do not differ significantly in their attitude towards creative teaching. Hence hypothesis second that there will be no significant difference in the attitude of pupil teachers towards creative teaching belonging to different Stream (i.e. arts and science) towards creative teaching is accepted.

The F-ratio for interaction (AxB), i.e., Gender & Stream has been found to be 0.056 which is less than table value 4.11 & 7.39 against df 1 and 36 level of significance. It indicates that under joint influence of Gender and stream there is no significant difference in the pupil teachers towards creative teaching. Hence 3rd hypothesis that there will be no significant difference in the attitude towards creative teaching under joint influence of gender and (male and female) and stream (i.e. arts and science) is accepted.

U) CONCLUSIONS

The following general conclusions are drawn on the basis of the present study:

- 1) There is no significant difference in the attitude of pupil teachers towards creative teaching with respect to their gender (male and female).
- 2) There is no significant difference in the attitude of pupil teachers towards creative teaching with respect to their stream (i.e., arts & science).

- 3) There is no significant difference in the attitude of pupil teachers towards creative teaching on the basis of interactional effect of gender (male and female) and stream (arts and science) when attitude scores are taken as dependent variable.

V) EDUCATIONAL IMPLICATIONS

Very important educational implications emanate from the present study are:

- 1) Teachers must try to use creative techniques and not just because it helps the teacher in many areas like evaluation of student's performance, classification of children according to abilities, preparation of time-table and schedules, providing immediate feedback to students for better interaction and motivation etc.
- 2) Creative teaching helps the teacher to deliver instruction and fulfil student's needs more efficiently.
- 3) In Creative teaching, teachers feel more satisfied because they are able to teach better and also they are free to work and they collect a lot of information.
- 4) The finding of the research is useful for policy maker educationists and educational planners. To know about the attitudes towards creative teaching among pre-services teachers. On the basis of this

study they can modify their present policies to increase problem solving abilities among pre services teachers.

- 5) Present will help the educational institutions and teacher educators to organize various co-curricular activities to enhance critical thinking and problem solving abilities among pre - services teachers of different stream.

W) SUGGESTIONS FOR FURTHER RESEARCH

The following suggestions may be incorporated for further research.

1. Present study cannot be called as final or comprehensive final more work can be done on different samples.
2. The study was confined only to the sample of 150 students. Hence, it is suggested that some type of further investigation can be made to know some more new areas it left untouched.
3. The study can be carried out in other universities also.
4. The present study was limited to 5 colleges and it is suggested that university can be taken for study also.

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Appendix –A

 <p style="font-size: small; text-align: center;">T. M. Regd. No. 564838 Copyright Regd. No. © A-73256/2005 Dt. 13.5.05 Dr. R. P. Shukla (Gwalior)</p>	<p style="text-align: center;">Consumable Booklet of ASCT-s (English Version)</p>
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Please fill in the following entries :		Date <input type="text"/>
Name _____		Father's Name _____
Date of Birth <input type="text"/>	Gender : Male <input type="checkbox"/>	Female <input type="checkbox"/>
Education Qualification _____	Faculty : Arts <input type="checkbox"/> Science <input type="checkbox"/> Commerce <input type="checkbox"/>	
Designation _____		Institution _____
Teaching Experience _____		Place : City <input type="checkbox"/> Village <input type="checkbox"/>
Area : Urban <input type="checkbox"/>		Rural <input type="checkbox"/>

INSTRUCTIONS

On the following pages 30 statements related to Teaching Creativity have been given. Read each statement carefully and decide your answer on given Five-point answer alternatives; viz., *Strongly Agree, Agree, Neutral, Disagree* and *Strongly Disagree*, have put a tick mark in the cell of appropriate alternative which is close to your answer.

Please do answer to all the 30 statements.

Your answers will be kept confidential.

Scoring Table

Page	Raw Score			z-Score	Grade	Level of Attitude
	2	3	4			
Score						
Total						

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Sr. No.	STATEMENTS	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	SCORE
1.	One who is dependent upon his parents.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
2.	One who is courageous in convictions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
3.	One who independently takes his judgements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
4.	One who thinks independently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
5.	One who is introverted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
6.	One who is always courteous.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
7.	One who is unwilling to accept what others say.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
8.	One who is visionary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
9.	One who is willing to take risks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
10.	One who is obedient.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
11.	One who always asks many questions in the class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
12.	One who himself starts his tasks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

Total Score Page 2

Sr. No.	STATEMENTS	Strongly Agree	Agree	Neutral	Dis-agree	Strongly Disagree	SCORE
13.	One who is determined.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
14.	One who is persistant.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
15.	One who is willing to accept decision of the authorities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
16.	One who is self-confidence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
17.	One who is self-assertive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
18.	One who strives for distant goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
19.	One who has sense of humour.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
20.	One who is introvert.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
21.	One who does not oppose the decisions of the teachers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
22.	One who asks unexpected questions to teachers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
23.	One who deeply studies any subject without caring for examination.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
24.	One who gives unexpected answers in the class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Total Score Page 3							<input type="text"/>

Sr. No.	STATEMENTS	Strongly Agree	Agree	Neutral	Dis-agree	Strongly Disagree	SCORE
25.	One who depends upon text books.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.	One who is interested in various subjects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.	One who points out the mistakes of the teacher.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.	One who has indifferent attitudes towards abstract concepts of colleagues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	One who taken in painting as well.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	One who accepts traditional ideas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Total Score Page 4

Appendix – B

Raw Scores of male students

S. No.	Scores	S. No.	Scores
1.	127	26.	113
2.	100	27.	116
3.	113	28.	122
4.	115	29.	123
5.	126	30.	117
6.	119	31.	162
7.	125	32.	110
8.	101	33.	114
9.	126	34.	121
10.	128	35.	142
11.	112	36.	139
12.	125	37.	118
13.	158	38.	117
14.	117	39.	118
15.	124	40.	140
16.	128	41.	139
17.	132	42.	113
18.	113	43.	137
19.	113	44.	123
20.	162	45.	122
21.	120	46.	133
22.	130	47.	115
23.	109	48.	112
24.	158	49.	119

25.	133	50.	117
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Raw Scores of male students

S. No.	Scores
51.	118
52.	141
53.	132
54.	115
55.	119
56.	128
57.	123
58.	118
59.	117
60.	119
61.	110
62.	133
63.	107
64.	130
65.	108
66.	121
67.	121
68.	141
69.	142
70.	112
71.	110
72.	109
73.	134

74.	121
75.	116

Appendix –C

Raw Scores of female students

S. No.	Scores	S. No.	Scores
1.	108	26.	131
2.	110	27.	113
3.	117	28.	111
4.	123	29.	135
5.	122	30.	120
6.	121	31.	110
7.	121	32.	104
8.	127	33.	106
9.	124	34.	122
10.	107	35.	130
11.	138	36.	124
12.	132	37.	100
13.	117	38.	144
14.	135	39.	122
15.	138	40.	131
16.	127	41.	117
17.	124	42.	112
18.	111	43.	123
19.	115	44.	116
20.	117	45.	145
21.	106	46.	115

22.	112	47.	113
23.	132	48.	111
24.	112	49.	132
25.	120	50.	117

Raw Scores of female students

S. No.	Scores
51.	115
52.	119
53.	142
54.	123
55.	118
56.	117
57.	119
58.	106
59.	113
60.	145
61.	121
62.	111
63.	108
64.	112
65.	110
66.	144
67.	113
68.	111
69.	116
70.	126
71.	113
72.	115
73.	110
74.	100
75.	110

