CHAPTER I

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NEED OF THE STUDY

Creativity is recognised as one of mankind's greatest assets. Almost every era witnesses numerous enlightened minds striving to expedite man's progress towards complete mastery over himself and his environment and also the failure of all but a few of them to do so. In fact, it is always the idea of these few creative minds of each era, that lead to tremendous upheavals in the history of man's culture and to the reshaping of his fate. It is also always the original contributions of these that go to form the foundation of human civilization. Had these great minds not worked, how many year's cultural regression the present generation would have suffered? A difficult guess. Creativity thus shines as mankind's greatest virtue, demanding not just protection from being stamped out, but positive promotion.

Currently, there is competition for the very minds of men. Among those factors which will determine the outcome of that competition, creativity is one of the most important. Both the quantity and the depth of creativity in the various areas of knowledge and in different nations will be significant.
In view of the fact that creative acts affect enormously not only scientific progress but society in general, those nations who learn best how to identify, develop and encourage the creative potential in their people may find themselves in very advantageous positions. As few as three or four highly creative minds can make a crucial difference. Many of our present means of travel communication and production can be traced back to the creative thinking of relatively small number of people. Creativity at its highest level has probably been as important as any human quality in changing history and in reshaping the world (Taylor, 1964).

It has generally been realised today by all nations whether big or small, developed or developing that their mere survival in the international tug of war may eventually depend upon how effectively they can conserve and utilise their most precious human resources, their gifted children. "The greatness of a nation", says Emerson (quoted by Gupta, 1977 "varies with the number of genuises it produces and the honour in which it holds them").

Very forceful plea to foster creativity for national growth, development and progress was made by Toynbee (1964) who, in his famous paper entitled, "Is America neglecting her creative minority?" observed: "To give fair chance to potential creativity is a matter of life and death for any society. This is all important, because outstanding creative ability of a fairly
small percentage of the population is mankind's ultimate capital asset and the only one with which man has been endowed...

If society fails to make most of this one human asset, or if worse still, it perversely sets itself to stifle it, man is throwing away his birthright by being the lord of creation and is condemning himself to be, instead the least effective species on the face of this planet." The same point has been emphasized by Rogers (1954), a prominent self theorist in these words, "Unless individuals, groups and nations can imagine, construct and creatively revise new ways of relating to these complex changes, lights will go out .... Not only individual maladjustment and group tensions but international annihilation, will be the price we pay for lack of creativity."

The eternal dynamism of human race whereby man has not only managed to survive on the surface of earth but has also made astounding progress in all fields is nothing but a rich tribute to one of his unique abilities - his ability to 'create'. It is this creativity in man, which has, on the one hand, differentiated him from other creatures of the world, and has at the same time kindled in him, a spirit to explore. Consequently man has felt an insatiable thirst to explore unknown worlds.

Man's creativity has been the main factor of all the positive changes in problematic areas. At present and in future it will continue to be man's supremely powerful instrument for
fruitful solution of all his problems and needs. As long as this grace animates man, his survival and progressive self-transcendence to higher and higher types of man remains secure. For these reasons maximal cultivation and development of this creative grace is man's paramount task of the present and the future (Sorokin, 1965).

The world is changing so fast that past 'truths' often mislead instead of help and no longer is it easy to apply past truths to the problems of the present and the future" (Torrance, 1965b). The gravity and the complexity of the challenges facing men in the twentieth century appear to exceed greatly those of preceding times. Each country has made this claim, and perhaps, in each country, this assertion has been correct. But today the importance of investigating the nature of the creative men have been accentuated by the rapid growth of technological knowledge, the increased emphasis upon the exploration of space and the ideological and economic competition with the outside world. In the present times when knowledge constructive, dispensable or indispensable, genuine or not is proceeding by the most incredible leaps and bounds into ambiguous and fantastic age, genuinely creative adaptation seems to represent the only possibility that man can keep abreast of the continuous change in his world. An investigation into the nature of creativity deserves special consideration in a world of stepped up cultural change, explosion of knowledge, population explosion, food problem and the like.
Hence it is necessary that our educational system is so organised that there is full scope of the flowering of creative urge.

Consideration and proper utilization of creative potential also assume crucial importance in national progress. This is more true in case of developing nations of which India is one. At present, like other developing nations in the world, India needs more scientists, technicians, educators and administrators of superior quality to head trained manpower in all fields to keep herself abreast of the latest advances taking place in other parts of the world. Under these circumstances, it would be a grave folly if India neglects its creative minority any longer.

From time to time, criticism has been levelled against the prevailing attitudes and behaviour which are alleged to be conspicuously deadly to the development of creativity. The view envisaged in democratization for providing equal opportunities to individuals for developing their unequal capacities to their maximum is gradually giving way to realization that democracy can run effectively only when all individuals develop their multifarious potentials to the maximum possible limit and can make a return to society by using those abilities. It is not enough in the view of many writers to offer equal opportunities for each student to develop along a personal path of self-fulfilment, because those children whose motives, values...
and skills do not conform to certain conventional patterns will not obtain high grades in school or high income in the world of work. As a result they will clearly be unequal. According to Cropley (1978) a more promising understanding of equality is to think of it in terms of self-fulfilment for each particular child's special patterns of hopes, aspirations and values, rather than of the imposition of a rigid and narrow uniformity. Certain patterns of self-fulfilment currently lead to more substantial momentary rewards in adult life. The answer to the problem of equality may well lie in fostering a society that is willing to tolerate a broader range of personal development and a more equal evaluation of differing paths of vocational fulfilment. So that children whose schooling has helped them to develop in an individual way can enter a work world in which a much wider range of jobs offer challenge, adequate income and acceptable social status. Schools can contribute to the development of such a society by recognizing and encouraging many different ways of thinking, true equality of a humane kind will be fostered by a recognition of the wide diversity of human psychological functioning and the development of both schools and societies that are highly tolerant of such diversity. The above point of view has a great relevance today for a country like India which has envisaged itself, a democratic set up.

Education can do a great deal in promoting creative performance, if perhaps not in producing the creative
abilities themselves. But education in our country is too bookish and mechanical, stereotyped and rapidly uniform, does not cater to the different aptitudes of the pupil or pupils of different.... The stress on examinations, the overcrowded syllabus, the methods of teaching and lack of proper material amenities tend to make education a burden rather than a joyous experience to the young mind (Secondary Education Commission Report, 1952-53) and naturally does very little to exploit the value potential of individuals. Already faced with alarming rates of wastage and stagnation and problems like 'mass illiteracy', 'braindrain' and 'malnutrition' no one can simply close his eyes to the tremendous wastage that results by our failure to identify and develop our youth to the limits of their creative potential. This point has been emphasized in the report of the Education Commission (1966), which says "Even the talent that enters schools and succeeds in climbing the educational ladder, does not flower fully because it is not discovered sufficiently early, and is often studying in poor schools". Besides education system in India has emphasized the abilities in the area of convergent thinking and evaluation often at the cost of development in the area of divergent thinking (Raina, 1971).

It would be apt to quote Stoddard (1959) in this connection that "the urge to enquire, to invent, to perform was stifled in millions of school children, now grown up, who did not get above rote learning or at least did not stay
above it. Likewise Osborn (1963) says that, "the organisation of our schools, our curricula and our text books pay homage to same god of conformity, even on selection system in education emphasizes the convergent abilities, it is always in the favour of good grade-getters. Mackinnon (1962) puts it, "There is increasing reason to believe that in selecting students for special training of their talent, we may have weighed the role of intelligence either by setting the cutting point for selection in the intellectual domain too high or by assuming that regardless of other factors the student with high IQ is more promising and should consequently be chosen."

In order to make significant improvement in education some quite different direction has to be thought about supplementing new ideas with new information about the characteristics of learners. Attention should be paid to the implications of recent findings concerning the components of human intellect and it is best for education to operate on the assumption that human abilities can be improved with practice (Guilford, 1958a). After making an intense study of creative process, Rugg (1963) suggests a total revolution in education and a restudy of the foundation of a new theory of curriculum, teaching and administration. He points out, "Educational theory to be appropriate to a revolutionary culture must be revolutionary new. But as we examined the thought patterns of the individuals which contemporary enculturation and education are producing,
we grew anxious. We find much evidence that these patterns are marked by conformity rather than creativity, retreat rather than advance, caution rather than daring in the very areas of life and experience where innovation is most needed."

Increased knowledge of the components of creativity has important cultural, social and educational implications. Thus pleas are being made today to give due importance to training in the educational systems of different countries. This can be done by ascertaining and understanding the nature of creativity about which training is to be given.

Due to everwidening horizons of knowledge in related fields and advances in research methodology, watertight compartments or barriers between different fields of knowledge have broken down in recent times. Consequently, many new hitherto unexpected areas of research have appeared before research workers (Bray, 1967; Guilford, 1970; Freeman, Butcher and Christie, 1971). In view of the importance of creativity in all walks of life, there is greater need to enhance its theoretical boundaries of knowledge.

Adolescence is a crucial period of stresses and strains and is so important in one's life that it cannot be relegated to the background. If society fails to recognise the importance of developing creativity and does not give adequate opportunity to make human talents productive, it is only natural that such abilities and capacities will remain
unutilized or even wasted in adolescence. To make use of this valuable of resources, an important step is to identify such able individuals early in life, expose them to a highly stimulating environment, encourage them to become deeply concerned with the area in which they are interested and then build up in them high degrees of skill through practice or activity within the area they choose. It may be noted here that talent will hardly reveal itself in the absence of stimulation and concern. So there is greater need to harness creativity of adolescents and to enrich the creative talent for devising ways in the field of education of adolescents.

Needs as important aspect of motivational domain in life are important determinants in the realization of creative potentialities. By knowing the needs of creative students, areas of maladjustment in the educational field can be identified. When the child is well adjusted in school, he is likely to achieve and develop his personality to a fuller extent. Any kind of disturbance in his school relations is likely to hamper the healthy development of his personality because deficit needs, perturbing problems and exacting demands may upset the creative individual in various areas of life. Such maladjustment leads to frustration and sometimes disintegration of personality. Thus there is an imperative need to tackle this problem by educating teachers. Teachers can be more effective in their guidance efforts only when they are knowledgeable about the needs of creative students and
hence teachers ought to be made aware about the creative strategies for transmitting information and educational skills effectively and to understand the significance of identifying and encouraging creative behaviour in children. If needs of creative adolescents are known, then proper training can be given about stimulating the creative talent.

Values play an important role in one's life. One of the urgent tasks confronting education is to face its problems with regard to values to enable the individuals to learn how to live up to the standards of society and its culture. Values are internalized in the individual through a continuous process of socialization and personal preferences. As such, the value system of an individual acts as a standard that guides and determines action, judgement and serves as an adjustive function thereby playing an important role in teaching-learning situations. Research attempts on values as related to Creativity (Mackinnon, 1962; Barron, 1965, Paramesh, 1970 and Singh, 1980) are sporadic.

Although creativity has been studied in relation to its different aspects from time to time yet, most of the scientific studies in the field of creativity were undertaken only in the later half of the present century. In fact, "creativity is considered to be one of the most modern, important fertile fields for research today, and one which is not likely to be discarded and tossed upon junk heaps of educational fads." (Treffinger, Rensuli and Feldhusen, 1971). The credit of
focussing attention of researchers on creativity is given to Guilford (1950), who drew the attention of educators to the appalling neglect of the study of creativity. He observed that some 121,000 titles indexed in the psychological Abstracts up to 1950, only 166 dealt with the topic. However, after 1950, so many research studies have been undertaken in the field that compared to their previous number no short of a 'bibliographical explosion' seems to have taken place (Parnes and Brunelle, 1967).

Further Torrance in an editorial (1973a) attempted to show this increase in creativity research by referring to a bibliographical compilation of reports, dissertations and published articles on the Torrance Tests of Creative Thinking (1966). The production of two papers between 1959-1960 increased to 121 between 1971-72. A survey by Raina (1975) reveals that a total of 133 studies in this area were done by Indian researchers and by foreign authors using Indian subjects for their study. According to Passi, et al. (1982) in all 160 studies related to the correlates of creativity were collected from different research journals, masters and Ph.D. dissertations and first and second survey of research in education edited by Buch (1974, 1978). However, much still remains to be done. Nature of relationship between creativity and variables like intelligence and other cognitive abilities, motivational factors and self-concept, different learning theories, modes of thinking etc. remains to be identified, replicated and established. Results oscillate from one study to another so markedly that, in the
opinion of many researchers, there is an urgent need to rethinking on the topics in the light of past researches and of replicating many studies.

Increasingly, the creative processes are being conceived within a multifaceted framework (Dellas and Gaier, 1970; Golann, 1963) rather than as isolated components of cognition, perception and personality. While much attention has been devoted to seeking relatively narrow and overworked correlates, there is need to compare the levels of creativity in respect of cognitive and non-cognitive variables taken conjointly.

RATIONALE

One possible avenue for study, which has been explored only sporadically is creativity in relation to the cognitive style extensively conceptualized by Witkin and his associates (Witkin, et al., 1962). The construct of field dependence-independence (FDI) has been demonstrated to be a stable and easily assessible characteristic that relates to several diverse areas of human behaviour conceived as a perceptual dimension of the cognitive construct, FDI was delimited along a continuum of individual differences. Amazingly the past decades have spawned hundreds of additional investigations concerned with relationship of FDI and Social, personality and cognitive variables (Witkin, et al., 1971). Thus much attention has been given to two facets of thought-cognitive styles and
creativity, stimulating a wide variety of research efforts directed towards each area in isolation from the other. The wealth of data indicating a multidimensional approach to correlates of creativity and cognitive style separately suggests some overlapping between them in respect of their respective correlates thereby indicating a possibility of exploring the relationship of creativity with cognitive styles.

Subsequent research work since Witkin's (1954), early studies have demonstrated that the perceptual functioning of field-dependent and field-independent individuals is related in a meaningful and coherent way to broad and highly diverse aspects of cognitive functioning which encompass the intellectual, emotional, social and motivational and even defensive life of a person. There has been almost no research relating these modes of perceptual orientation to the process of creativity (Crutchfield, et al., 1958; Wallach and Kogan, 1965; Bloomberg, 1966). In some respects this is surprising since Witkin discussed these relationships, albeit briefly in his early book 'Personality through Perception' (Witkin et al., 1954). Without formulating specific hypotheses concerning these relationships Witkin did note that Wertheimer (1945) had presented a conceptual model which provided possible linkages between these modes of cognitive functioning and creative expression. Wertheimer had indicated that ability to "break up" and reorganize configurations in problem-solving tasks might also be evidenced in situations
calling for creativity, since "... problems that call for high degree of creativity ... also require that the 'parts' be separated from the contexts in which they are embedded and brought into new relationships".

Field-dependent or 'global-field' perceptual performers are described as individuals who lack a well-developed sense of their own identity and separateness from others. During their development these individuals have failed to internalize a stable set of standards with which they can interpret and react to the world. Lacking stable internal frames of reference, field-dependents have great difficulty maintaining their own 'direction' in the face of contradictory expressions from other people. Consequently, they look to others for support and reassurance and are highly vulnerable to external influence, particularly from authoritative figures. Global-field persons are postulated as being unable to organize and impose structure upon ambiguous stimuli. When thrown upon their own resources or faced with new and/or unusual situations, they tend to become 'disrupted' and respond with ineffectual behaviour. These individuals show a low awareness of their own 'inner life' and are fearful of their own aggressive and sexual impulses. They characteristically utilize 'primitive' modes of defence such as denial and repression. Consequently, they tend to experience themselves and the world in a vague, blurred and unorganized fashion.

While diffuse and poorly integrated functioning seems
to characterize the adjustment of the field-dependent individual, the field-independent person falls at the other extreme on these personality dimensions. Field-independent or 'analytic-field' perceptual performers are described as having a highly developed sense of their own self-identity. They tend to be regarded by others as socially more independent than their field-dependent counterparts and evidence a ready capacity to function with little environmental support. Field-independents effectively organize and structure vague or ambiguous stimuli and are likely to adopt a relatively intellectual and impersonal approach to problems. They tend to be regarded by others as socially more independent than their field-dependent counterparts and evidence a ready capacity to function with little environmental support. They are not markedly influenced by authorities but tend rather to be guided by their own standards, values and needs even to the point of being isolated from other people. These individuals evidence a relatively high awareness of their own aggressive and sexual impulses. In their adjustment, field independents tend to use relatively specialized and complex defences such as isolation and intellectualization. Consequently, field independents may be somewhat detached and obsessive and are sometimes described as 'overcontrolled'. They show greater cognitive clarity than non-creative global-field individuals and tend to experience themselves and the world in a discrete organized and articulate fashion.
There are a number of divergent theories of human creative process. However, most theorists agree that creativity is a process interrelating the person with his world, a sensuous and at times even 'jarring' personal encounter between the individual and the world of objects and other people. A number of theorists, especially Wertheimer (1945), Tumin (1954), Ansbacher and Ansbacher (1956), Fromm (1959), Rogers (1959), May (1959) Schachtel (1959) and Mackler and Shontz (1965), stress that the creative individual is highly sensitive to his environment. He is more open to it; he is moved and sensitive to what is happening in his world. In addition most theorists agree that creative individuals evidence a need and capacity to 'toy' with, reorganize, restructure and integrate divergent and even contradictory elements of experience.

The field-dependent person shows rather remarkable responsiveness to environmental influence. He lives in close proximity to, and is frequently swept by, the kaleidoscopic range of feelings, moods and emotions which constitute the raw ingredients of creative experience. However, he has only a limited awareness of his own impulse life and has great difficulty in structuring his experiences into meaningfully organized patterns or part-whole relationships. Moreover, his easily mobilized anxieties, strong needs for external support and reassurance, and difficulties in handling the 'new' and 'unusual' are factors which sharply limit his ability
to participate fully in creative enterprise. Thus, although
the field-dependent person is highly sensitive to his environment,
he is also victimized by it and lacks the capacity to organize
and integrate effectively both inner experiences and environmental
events.

The field-independent individual, on the other hand is
said to show a greater and more articulated awareness of his
own inner experiences and environmental events. While he lacks
the symbiotic openness of the field-dependent person he is
described as having an unusual capacity to 'break up' experiences
and to remould and reconstitute them in new patterns and
configurations. In addition, the field-independent person evidences
the kind of autonomy and freedom from societal restraints which
may be necessary for a genuine or creative encounter with the
environment.

Basically, then the present study is based upon the
assumption that the relatively high level organization and
personal differentiation which characterize the functioning
of the field independent individuals and the vague, blurred and
labile mode of functioning which characterizes field dependent
ones will be reflected in their creative performance just as
they are evidenced in other areas of these individual's
personality-functioning.

In the prognosis of creativity, motivation and personality
characteristics are given a vital importance. The creative
person according to Taylor (1964) has certain motivational
characteristics. He is curious, enterprising in his ideas, tolerant of ambiguity and shows initiative in his work. He likes to think and to manipulate ideas, he has an inner need for recognition; he needs variety and autonomy; he has a preference for complex order and for challenges therein; he has an aesthetic and to some extent religious orientation. The more creative scientists rate themselves high in drive, dedication to work, resourcefulness, desire for principles and desire for discovery. They have high aspirations for the quality of their written work, their theoretical contributions, and the level of original work that they hope to produce. Whether or not the individual who has the requisite abilities will produce results of a creative nature will depend upon his motivation and temperamental traits (Guilford, 1958b). Creativity in the sense of innovative, daring, free ranging and original thinking has unique combination of three components (Crapley, 1978) which include the intellectual aspect (the power to get ideas); the motivational aspect (the willingness to work at getting ideas and to reveal them when they have been obtained); and emotional aspect (the courage to think in different ways to resist pressure to conform to risk, ridicule and so on). All three need to be developed if children are to think creatively.

However, research efforts have been very scarce on the motivational aspects of creativity and their interaction with remaining variables.

Maddi (1965) refers to the supposition that frustration and high needs impede creativity. As evidence disproving this
supposition, he quotes general historical evidence and evidence from his own experiments which showed that novel creative themes were produced where high need states of achievement, affiliation and power were present. Thus Maddi concludes that abilities, styles, novelty, flexibility and willingness to consider unusual, unlikely and strange possibilities, are all necessary for the creative act, but are not alone sufficient. Motivation is required which can enable people functioning creatively to overcome the restrictions and frustrations of their environment. According to Berlyne (1965) it is the resulting cognitive conflict which arouses the individual and provides the motivating force for further directed thinking and greater creativity tends to issue from greater conflict and comes from willingness to attack greater or more difficult problems. It may thus be argued that needs act as a base and motivate subjects to respond differentially on a creative task producing varying unusual responses of varying frequency, based on inner promptings. Creative activities and ways of learning seem to have a built-in motivation power. Positive reinforcement and external rewards seem necessary, though not inimical to creative learning. In fact, motivation to learn in creative ways sometimes continues inspite of discouragement or negative reinforcement (Torrance and Myers, 1970). It has been argued that creative behaviour depends as much on motivational aspect of personality as on cognitive power which is evidenced by the comments of various authors.
given here. Hargreaves (1927) recognizes a conative factor in the cognitive process of verbal fluency accounting for the individual variance. According to Getzels and Jackson (1962) the important distinction between the highly creative and highly intelligent adolescents does not confine to the cognitive spheres alone but it embraces the temperamental characteristics as well. The interaction of personality and creativity has been evidenced by Wallach and Kogan (1965) in their studies on young individuals. Freeman et al. (1969) point out that the differences in creativity seem likely to be related more to non-cognitive than cognitive traits.

There is yet another point of view which stresses that creativity itself is to be understood in terms of personality or in a sense, the person himself. Allport (1937) recognizes the significance of assumption of creative motive from functional autonomy in the individual. May (1959) regards the truly creative to be the manifestation of one's filling his own being in the world. In a similar vein, Rogers (1962) attributes creativity to the encounter between the uniqueness of the individual and his milieu. Maslow et al. (1945) and Maslow (1954 and 1962) make a distinction between special talent creativeness and self actualizing creativeness. The former refers to product and attitude while the latter typifies openness to experience.

Efforts have been made in the past to study the needs of creative persons but are inconclusive in nature. Moreover,
research works were conducted primarily on the selected categories i.e. Mathematicians, Engineers, Architects and Artists. Need was felt to conduct the present study as work on the needs of creative student population is of rare nature.

Individual's activities are determined to a considerable extent by his values (Falding, 1965). He almost spontaneously finds a meaning and satisfaction when his strivings are in harmony with his values and ideals and of course, he feels, or tends to feel restless or depressed when he finds that his acts are out of tune with accepted or expected standards. The conflict or frustration of the individual tends to be precipitated when he is confronted with a situation in which the accepted standards themselves remain in a state of flux. A consistent well organised conception of one's values, abilities and possibilities gives him a sense of personal identity and a point for departure from developing a life style of his own, and an individual who entertains a deep doubt about his own self, tends to feel lost, confused and alienated from himself and from other people (Ganesham and Narayan, 1978).

Values play an important role in shaping individual behaviour. They include an inner condition of the individual that initiates and directs its behaviour towards a goal (Havighurst and others, 1954; Ray Chowdhry, 1958; Lowell, 1969). Values
help in the selection and direction of behaviour as well as for its vigour and persistence.

The strength of individual values is often gauged by the amount of efforts he is willing to spend to achieve his goal and stronger values give him a better chance of reaching it by making more energy available to him. Values are the key choices that shape the type of life, the man builds for himself and the kind of person he becomes and these reflect his basic values (Coleman, 1971). These expressions suggest that to understand a creative person, it is essential to study the values which can be helpful in unfolding the unique characteristics of creative nature.

According to Carl (1975) characterization of creativity is that process which is creative and must issue in something valuable. Mere difference of structure does not guarantee that the structure is a creation. Merely being eccentric is not necessarily being creative. The presence of value is a condition of creativity. Carl claimed that cognizance of form depends upon valuation in the sense of selection. Thus a form or identity in difference presents a kind of value insofar as the coherence that reveals it makes possible the appearance and selection of what is discriminable and intelligible. The relevance of a value to intelligibility must now be explored. It was also suggested that value is present in created objects because control and responsibility enter creative acts and because creativity must yield products
that are either contributions to, or at least not incoherent with, traditions in their futures.

In a consideration of the relation of value to creativity, two features of creative acts should be emphasized. On the one hand, the agent does not begin a creative process with a preconception of the explicit structure of the end toward which his act is directed. On the other hand, the agent in some way is responsible for the new form that appears in relation to the creative process. Creativity includes an element of discovery and an element of control. Thus, it is neither the production of what was familiar nor simply the discovery of what was unfamiliar. Creative processes lead to discoveries and the production of unfamiliar results which are also valuable. Consequently, novelty proper is not deemed a mark of creativity unless the product that exhibits it is also valuable.

Allport and Vernon (1951) stress the incompatibility and conflict between the cognitive and rational concern with truth which characterises the theoretical value and the emotional concern with form and beauty so characteristic of the aesthetic value. If the theoretical and aesthetic values are fundamentally opposed, it would appear that the creative person has the capacity to tolerate the tension of strong opposing values and in his creative work he reconciles these opposites. The truly creative person is not satisfied with the solutions to his problems.
unless they are elegant. He demands of his work that it be simultaneously both true and beautiful.

As far the relationship between creativity and cognitive styles, needs and values is concerned at least in India, not much published research work is available till now on the topic, thereby suggesting that the topic is fresh and largely untouched. The present study is an attempt to examine the cognitive style, needs and values of creative adolescents as also to compare the cognitive styles, needs and values of high creative group with those of low creative group.

The specific problem taken for investigation in the present study reads as under:

"Cognitive Styles, Needs and Values of High and Low Creative Adolescents"

OPERATIONAL DEFINITIONS OF TERMS USED

In order to ensure clarity and precision in the discussion part it was considered necessary to provide the operational definitions of the various terms used in the study.

CREATIVITY : Creativity has been operationally defined as a process of sensing difficulties, problems, gaps in information, missing elements; testing these guesses and possibly revising and retesting them; and finally communicating, the results (Torrance, 1962). It has been measured by Torrance Test of
Creativity (Verbal Form A) in terms of verbal, fluency, verbal flexibility, verbal originality and total creativity scores. Verbal fluency is the ability to produce a large number of ideas with words, verbal flexibility is the ability to produce diversity of ideas with words. Verbal originality is the statistical infrequency of responses or the extent to which the response deviates from the obvious and the common Total Verbal Creativity is the sum total of verbal fluency, verbal flexibility and verbal originality.

High and Low Creative Groups: The top 27 per cent of the students (Kelley's criterion, 1939) considered on the basis of their total verbal creativity scores have been taken as the high creative group and the bottom 27 per cent of the students considered on the basis of their total verbal creativity scores have been taken as the low creative group.

COGNITIVE STYLE: Cognitive style refers to the modes an individual employs in perceiving, organizing and labelling various dimensions of the environment. Cognitive style in the present study refers to the field dependence-independence variable as measured by the Group Embedded Figures Test by et al. Witkin (1971). A person with field independent way of perceiving tends to experience his surroundings analytically, with objects experienced as discrete from their backgrounds. The person with field dependent way of perceiving tends to
experience his surroundings in a relatively global fashion, passively conforming to the influence of the prevailing field or context.

**NEED:** Need may be defined as a construct (a convenient fiction or hypothetical concept) which stands for a force (the physico-chemical nature of which is unknown) in the brain region, a force which organizes perception, appreception, intellection, conation and action in such a way as to transform in a certain direction an existing unsatisfying situation (Murray, 1938). Need variables in this study refer to 15 measures as measured by EPFS namely n-achievement, n-deference, n-order, n-exhibition, n-autonomy, n-affiliation, n-intraception, n-succurrance, n-dominance, n-abasement, n-nurturance, n-change, n-endurance, n-heterosexuality and n-aggression.

**VALUE:** Values may be defined as dominant interests, things in which people are interested, they want and desire to be or become and feel as obligatory, worship and enjoy (Allport, 1951). In this study value variable refers to six values as measured by the Indian adaptation (Ojha, 1977) of 'study of values', test by Allport, Vernon and Lindsey namely theoretical, economic, aesthetic, social, political and religious.

**ADOLESCENCE:** Adolescence refers to an age of transition leading to growth and maturity in all the important aspects of one's
Both boys and girls who attended the high and higher secondary schools as regular students of grades IX and X with age group from 14 to 16 years were taken as adolescents in this study thereby omitting the pre-adolescent and late adolescent groups.

OBJECTIVES OF THE STUDY

The present study was directed towards the following objectives:

1. To identify high and low creative groups of children on the basis of their performance on tests of creative thinking.

2. To examine and compare the cognitive style of field dependence-independence of high and low creative adolescents.

3. To examine and compare the need patterns of high and low creative adolescents.

4. To examine and compare the values of high and low creative adolescents.

5. To study the interactional effect of creativity and intelligence in explaining individual differences in cognitive styles, needs and values.

DELIMITATIONS

While applying generalizations of the study as reported towards the end of report following limitations...
were kept in mind.

1. The study was limited to the students of IX and X grades, that too drawn only from government and private recognized schools of the Union Territory of Chandigarh.

2. The investigation was limited to only Union Territory of Chandigarh, the population of Chandigarh may not be typical. However, possibilities of generalization of results to other states are to be considered with caution.

3. The study was limited only to the middle adolescent group.

4. The study was limited to high and low creatives and does not deal with average creatives.

5. The present study was delimited to verbal creativity only.

ORGANIZATION OF CHAPTERS IN THE REPORT

The introductory chapter of the report presents need and a rationale for taking up the present study. Various theoretical views regarding creativity, cognitive styles, needs and values have been discussed in the second chapter, while the third chapter deals with the review of related literature. Methodology and Procedure adopted for completion of this work have been given in Chapter IV. The next two chapters (V and VI) deal with analysis of data and discussion of results pertaining to t-Raties and analysis of variance. The last chapter (Ch.VII)
contains summary and conclusions of the present study giving the overall view of the whole research report along with the educational implications of the present study and suggestions for the further research. Bibliography and appendices have been attached at the end of the research report.