CHAPTER II

THEORETICAL AND CONCEPTUAL FRAMEWORK OF CREATIVITY

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NATURE AND CONCEPTUAL FRAMEWORK OF CREATIVITY

2.1 Nature of Creativity

Creativity is not the prerogative of a selected few. It is distributed among all people in a continuum. It is universally found in all persons in varied degrees and shapes. The most salient feature of creativity is originality. It is revealed through uncommon clever responses to new situations. It is usually displayed in the form of original capacity to organize ideas in novel juxtapositions. It is the capacity to grasp vast, complex and intricate conceptual structures. It is viewed not in conformity, but in novelty.

Creativity stands for "the capacity to accept challenge, "the readiness to change oneself", "the capacity to change one's environment". According to many psychologists, creativity should form an integral part of intelligence. There have been a lot of controversies about the relationship between intelligence and creativity (Getzels and Jackson, 1962; Torrance, 1952). In general, there seems to be almost no relationship between measures of figural creativity and measures of intelligence, and only low positive relationship between verbal measures of creativity and intelligence.
It was the belief that at birth there are individual differences in characteristics associated with creativity, e.g. responsiveness to environment, curiosity, etc. But a study by Pezzullo, Thorsen and Madaus (1972) showed no evidence of hereditary variation in either verbal or figural forms of creative thinking. According to Torrance (1977), the "heritability index for the figural and verbal measures of the Torrance Tests of Creative Thinking approached Zero and were statistically insignificant".

Torrance (1971) summarised the results of 16 different studies conducted in various localities in order to ascertain the relation of creativity with socio-economic and racial factors. It was revealed that in some studies, there no racial or socio-economic differences and in a few others, black children excelled blacks on others. The same was true where socio-economic differences were studied. On the whole, there was no racial or socio-economic bias to the distribution of creativity.

Creative abilities seem to have a built-in motivation power. Positive reinforcement and external rewards seem unnecessary, though not contradictory to creative activities. Rather it is found that in spite of discouragement or negative reinforcement, motivation for creative activities continues to sustain (Torrance and Myers, 1970).
2.2 Identification of Creativity

Education aims at developing all kinds of creative talents in students. But identification of creativity must proceed any kind of arrangement for developing creativity. Since there are various creative talents, we have to adopt multiple talent approach there cannot be any one way of identifying talent. Again, there are aspects of talent which are not always amenable to testing or indentifying so easily. We have to adopt, therefore, both testing and non-testing devices for identifying talents.

Researchers have shown that if we consider academic talent alone, about 30 per cent of school population will be missed. But the major emphasis in school today is on academic talent alone, which is, of course, not less important. It is, however, to be emphasized that by concentrating on academic talent alone, we are wasting a large part of talent available in the school. This is a great loss to the nation in terms of available human resources. It may be conceded that high achievers in the academic field have been found to possess other talents also, even though it cannot be taken for granted for all cases. We find a large number of poor achievers who are highly talented in other fields. Instances are not rare when we find cases with poor performance in schools have turned to be highly creative in inventions, writing, art, architecture and other fields.
Research studies conducted by Donald Mackinnon Barron of the Institute for Personality Assessment, University of California at Berkeley, have revealed that out of highly creative adults—architects, authors and scientists on school grades only a few were straight "A" students. For the architects averages on grades were around "B", whereas for research scientists they ranged somewhere between 'C' and 'B'. Baqer Mehidi (1977) has aptly observed: "Regainding the relationship between creativity and intelligence they found that no simple realtionships existed between the two". It has been established that intelligence is necessary, though, not the only, condition for creativity. Every creative person must have a certain minimum level of intelligence, but a highly intelligent one may not necessarily be creative.

The famous study by J.W.Getzels and P.W.Jackson has shown that traditional measures of intelligence alone cannot spot out creative students. They arrived at the conclusion that creative students have something else and something more than what the intelligence tests show. The correlation between intelligence tests and tests of creativity with emphasis on divergent thinking has been found to be positive, but low. Such correlation, again, exits up to a certain level of IQ, not beyond that point. Torrance has also equally confirmed that there is hardly any corelation between IQ and creativity test scores above at 120 IQ. The minimum level above which
creativity and IQ may not show relationship will certainly differ from one field to another depending on the role of intelligence plays in it. For, example, it may be found that scientific creativity requires a higher level of intelligence than creativity in art or music.

All creativity tests do not measure each and every creative ability equally. Tests of divergent thinking alone do not constitute complete tests of creativity. They, of course represent an important factor of creative thinking ability. There are a number of personality traits which are also involved in the making of creative person. According to Torrance, we miss about 70 per cent of out more creative youth when we depend in IQ tests alone.

Another findings of Getzels and Jackson's study which was later confirmed by Torrance that teachers preferred to have children of higher IQ in the class rather than creative ones achieving well in the class. This distinctly shows that it is not only the intelligence tests that are biased against the highly creative child but also the teacher. It is also evident that teachers with limited concept of creativity give more emphasis to academic aptitude. "Such an aptitude on the part of the teachers", as observed by Mehdi (1977), "is surely a great hindrance in the way of identifying creative talent in the class room".
It has been rightly concluded by Mehdi that we will have to depend on tests of creative thinking for identifying creative talent. However, we have to develop some non-testing techniques which would enable us to assess those facets of personality which are not generally amenable to teaching. Teachers should be made more conscious of the true nature of creativity.

The most popular tests of creativity are those of Torrance and Guilford's tests based on a factorial study of creative talent are also used by many researchers. The tests developed by Mehdi for measuring creativity were suitable for the school going children in India. This was a battery of creative tests based on Torrance's concept of creative thinking. It was meant to identify creative talent at all stages of education except pre-primary and primary. It consists of two parts, vis-verbals and non-verbals for measuring a unified dimension in the intellectual domain designed as creativity.

With a view to identifying creativity in the students, one should be aware of the personality traits or general characteristics of a creative person. Research studies have shown that a creative person is self-sufficient. That is, his cognitive style is such that he will not depend on others for support. He can take his own decisions and can think for himself.
On the other hand, as a corollary to the previous characteristics, the creative person feels himself competent to plan for his own things. He does not need the help and guidance from others.

Further, the creative person is open-minded and free from dogmatism and partisan spirit. He is independent in thinking and independent in judgement. Fundamentally, he is a non-formist and non-traditional in his cognitive style and approach.

Likewise, the creative individual is conscious of his own emotions and impulses. He is self-accepting and self asserting as a result of which he can express his creativity under all circumstances. Even "adverse circumstances serve as a kind of spur for his creative expression" expressed by Raina (1977).

Moreover, the creative persons is very strong minded and is not at all worried about opposition and criticism of others. Even he is unmindful of any kind of loss or persecution. Socrates and Copernicus are the bright example of this type in the history of mankind.

On the other hand, the creative people are found to be persistent. The quality of persistence or perseverance is very innate, or inborn with them. They show high degree of energy and activity.
Lastly, many creative persons are felt to be accen
tric and egoistic. It is natural to their mental make up and cogni
tive style. Although they appear to be absent minded, they are not so in
general, they are psychologically healthy people and mentally alert.

Creativity is a complex phenomenon. It is the product of many complex and diverse forces and factors. The characteristics mentioned above are only rough indicators of creativity and tests are also not self-sufficient in identifying creativity. Hence, we have to utilize various occasions and conditions for observing creative potentialities. Creativity can identified and ascertained from different intellectual and non-
intellectual behaviours of individuals.

2.3 Creativity and Education

Creativity may be defined in many ways. It is usually defined as a kind of person, product or process. It may also be defined in terms of an environmental condition. Rhodes (1961) has referred to these four kinds of definitions as the four P's of Creativity: person, process, press and products. In attempting to combine these four approaches, Rhodes has defined 'creativity' as a noun naming the phenomenon in which a person communicates new concepts (which is the product). He explains that mental activity (or mental process) is implicit in the definition and that no
one could conceive of a person living or operating in a vacuum, so the term 'press' is also implicit. He admits that the definition begs the question as to how new the concept must be and to whom it must be new. The production of something new is included in almost all the definitions given by those who have investigated creative behaviours. Crutchfield 1962, Wilson 1956 have defined creativity by contrasting it with conformity. In general, creativity has been seen as contributing original ideas, different points of view, and new ways of looking at problems.

Selye 1962 in his definition requires that basic discoveries or creative contribution possess to high degree and simultaneously three qualities:

They are true not merely as facts but also in the way they are interpreted, they are generalizable, and they are surprising in the light of what was known at the time of discovery.

Torrance has described creative thinking as taking place in the process of sensing difficulties, problems, gaps in information, missing elements, making guesses or formulating hypothesis about these deficiencies, testing these guesses and possibly revising and retesting them, and finally in communicating the results.

In our present society we receive so much spoon-feeding in terms of how-to-do-it instructions in school, at home and at work that most of us lack
almost any opportunity for being creative. If this is so, we may be developing a society of 'sick' people. Maslow postulates that a person who does not have a basic need fulfilled is sick, just as a man is sick who lacks vitamins and minerals. The five basic needs to which Maslow refers are :- a) Psychological needs, b) safety needs, c) love, affection and belongingness need, and d) esteem need and the need for self-actualization. Maslow says: "what a man can be, he must be". Education can help for providing for this need by building the environmental turnpikes on which the individual may drive once he has remove the mental governors that restrict his creative ability.

The individual's creative ability is frequently so repressed by his education and experience that he cannot even recognize his full potential, let alone realize it. Once he can be helped to do so, he may attain what Maslow calls 'self actualization'. Education can do much to help the individual achieve this fullest self actualization, whatever his level of native capacity. Many people seem to possess the seeds of creativeness, but the environment fails to provide the proper nourishment for growth. Therefore, these persons never fully live. Education and psychology can provide for 'creative calisthenics' to counteract this atrophying of our talents. And just as comparing out can be rewarding even though we have homes, creative exercise can be rewarding even though we have access to ready-made solutions. Just
as physical education does not take for granted the physical development of our students, likewise creative education must provide deliberately for their creative development. And research does seem to warrant the postulates that the gap between an individual's innate creative talent and his lesser creative output can be narrowed by deliberate education in creative thinking.

To get creativity in society viewed as a whole, we must start early in the life of the child. Beyond any motion lies the world of first hand reality, but to be real it must be touched, tested, smelled, seen, and heard in manifold ways, over and over again. A single mountain view changes with the time of day, the weather, the season, and more subtly, with the mood of the observer. What we see and respond to may be affected by pressure from economic, political or religious sources, thereby losing a measure of its individuality and of its truth. Creativity in any medium suffers from the imposition of content, form or message. If beholden to politicians, we demand that certain things be not only looked for but found and expressed, artistic integrity is the last. The end product is poster art presently rampant in Russia. The creative life at any age may or may not accept norms of behaviour but to flourish at all, it must be given a free choice. Many conformists bear contemporary education for its insistence upon a freedom of the mind they have learned to do without.
Creativity is a phenomenon that appears along a continuum of personal and social growth. We may postulate that every body has some spark that education and psychology can blow upon and make brighter. A warning note from professor Ulich: We have many testimonies of those who can claim to have possessed the quality of creativeness in superior fashion. Most of them were specialists of a kind, otherwise they would have been mere dilettanti. But they were more than specialists. Their stubbornness in the pursuit of the aim in mind was accompanied by a wealth of associations. They were not one-dimensional but multi-dimensional. They were not only logical, they were also intuitive. The 'creative lunch' that led them into new areas of perception did not spring from a mere accumulation of knowledge and technique. Many forgotten men were their superiors in that respect. It came from an often unconscious source they themselves could describe only in symbols.

It is exactly this source of creative intuition which should interest us — that quality which so clearly distinguishes the great man of business from the mere money-maker, the statesman from the politician, the truely rational man from the mere dialection, the scholar from the recoder, and the artist from the reproducer. Strange though it sounds if our colleges and universities forget about this intuitive centre of the human mind, their instruction, however accurate and diligent, may bury creativeness. Human beings are to preserve creativeness and not to bury it. In creativeness we have the essence of what is worth saving, in education and psychology we have the means.
It is a function of education and psychology a creative function — to open the mind to self revelation, thus unifying the personality. In so doing, education and psychology clear the channels of communication. As we ponder over the self revelation of others in many creative aspect of art, science, or behaviour we may tap the springs of some small creativity within ourselves.

Keeping in view the requirements of the present day education, the following principles and techniques of creative education may be incorporated in our educational policies and programmes:

a) Many early influences lead children learn by imitation rather than learn creativity. The problem, therefore, in education is to get the children a way from imitation and to afford them with rich opportunities to learn creativity by exploring, questioning, experimenting, manipulating, testing and modifying ideas or solution. Perhaps parents can play a crucial role in developing creativity in earlier years of the child. Many a times children are asked by parent or elders not to talk or jabber too much, when the young ones ask any question about happenings around them. If parents provide necessary opportunities for children to seek answers to the question shubbing them or give a straight foreward answer, they would be playing a constructive role in developing creative behaviour in children.
b) Learning by authority, i.e. respective reading, listening, etc. appears to be economical. But if things are learned creatively they can be more effective and economical. The child should be encouraged to ask more and more questions. His curiosity to know more should be developed and should be allowed to satisfy himself by the facts which he has learnt from textbooks, teachers or elders.

c) In almost all branches of knowledge especially in science subjects we only teach students dead corpse of past knowledge. Such a teaching approach neither creates any new thinking nor any fresh look among the taught. They should be given much chance while imparting knowledge to experience the exciting living adventures that occurred in the process of producing this knowledge. As the child is taught things which are outdated or which have been modified and irrelevant to daily life of a common man, he takes it as an imposition of things upon him and loses interest.

d) As a constructive step towards encouraging a variety of thinking a teacher may also ask for his opinion of the students in some area and then praise for having ideas of their own.

e) The ability on the part of the teacher to listen to new ideas as they emerge in his student is very important. It is flexible, permissive and
responsive environment as against highly structured, controlled, teacher directed and manipulated environment that will foster creativity in students. If a student asks creative and original questions, criticizes the facts and poses unrelated questions he should be made to analyse the questions posed by the student.

f) It is the creative characteristics present in the teacher that will develop creative characteristics in his students as open-mindedness, being not critical to new ideas, tolerance of uneasy question. This will make the teaching-learning environment more creative.

g) Students are accustomed to slavishly learning and mastering many tools and processes used by adults needs to be improved. This might produce a critical approach towards the old tools and processes and might lead them to design the sense.

h) Students may be assigned such problems that need long sustained period of time and effort instead of small piecemeal tests which they may cast off, without further concern or revisions in the form of brief daily assignments.

i) The students need be taught to read books for not reproducing the author's outline but to speak new ideas of one's own and then produce an outline of them.
j) Institutions engaged in preparing teachers for teaching profession should develop questioning abilities in teachers so that they may learn to formulate thought-provoking questions about known subject-matter and also about the unknown. This will afford stimulating environment to students to develop their questioning ability which is one of the forms of curiosity in action, the backbone of creative performance.

2.4 Creativity and Human Growth

Every culture has its own definition of humanness. The development of a human being implies the fullest growth of these defined potentialities. In literature and research on education in the West, human development is seen in terms of physical, intellectual, emotional and spiritual growth.

Anyone studying the growth of children or for that matter his own development is aware airtight categories do not exist in reality. Each individual is a complex sum of all these aspects and function vis a vis complicated experiences.

Research in cognitive psychology has established the human brain, like the computer it has created, processes all information through a system of symbols. There are two main systems, notational and expressive symbols.
Notational symbols have a standard one to one relationship, that is, the numerals one, two or three stand for quantities; one chair two tables. Two plus two adds up to four and will under no circumstances make five.

On the otherhand it may be discuss what does the colour red mean? It has many related and unrelated connotations, each determined by culture, history and natural association. In one culture brides wear white in another widows wear the colour. In music, dance, painting, sculpture, architecture and literature, people used and create symbols that are expressive, not notional, by culture. A diya lit at the commencement of a performance does not merely signify light but also wisdom, removal of darkness, victory over ignorance.

Schools by concentrating on the three R's not only limit the normal functioning of the human brain but also make a child incapable of interpreting expressive symbols common to a cultural environment. The role of the arts in education ensures the development of the human brain to its fullest capacity. It enables a child to relate to what he or she learns in school. Then the human mind begins to develop by moving from the general to the specific.

If the students have to move from the general to the specific, their senses need to be finetuned to pick up the most discerning clues. They have to
internalise information and later express the subtleties they have experienced. Art is essential for the discovery of poetry is every experience, from the magic of mathematics to the wonder of language when it becomes literature. Unfortunately in Western psychology emotional development is treated as separate for the intellect. Accompanying this notion was the idea the arts covered the affective domain while the sciences involved the intellect. Teachers were told to encourage "bright students" to take up science, to let the dull ones "work with their hands" by learning "a craft".

Yet it was discovered within the first few minutes of teaching the bright students were the ones working best with their hands. They acquired the skills to express themselves in any symbol system offered to them. Students who appeared in school records as "not so bright" were the ones with little experience and control over the expressive symbol system which is why they found learning so demanding.

Intellect and emotion go hand in hand. There is no thought without feeling. Every feeling carries a thought. A thought or feeling does not used verbal expression because verbal symbols are but one of many systems the brain operates with. The average student has more feelings than he has skills to express them. And he is never given the opportunity to learn about them.
Paulo Friere coined the term "culture of silence". This culture is perpetuated at every stage of school. Which is why we have a nation today with a politically powerful mass media that dictates how we should dress, talk or design our homes. Though we all have voices and limbs we depend on others sing and write for us.

Spiritual development is undoubtedly the most important aspect of human growth. Education, indeed the entire process of becoming human, rests on spiritual nourishment. By spiritual development it does not mean religious indoctrination or even religious sentiment.

Every teacher knows what every parent knows. That when it comes to teaching a child, it is not merely physical, affective or cognitive development which matters. It is the spirit, will to learn, motivation, curiosity, psychological make up and response to the rest of the world that are crucial. A broken spirit cannot grow, function or learn.

To nurture the growth of a child's spirit, to motivate him to learn, to give him the will to survive his mistakes, to help him strive, to make him accept others, to help him live without fear or inhibitions is the very goal of education in a free and democratic society.
Spiritual development is impossible without the arts. The arts offer the opportunity during childhood for a person to become a creative human being like few other disciplines can. In singing a song, writing a poem and painting a picture lies the creative process calling upon all human faculties. Such activities demand the concentration of the whole being.

It is time for education to be geared towards making the internal process of learning external. The process includes making mistakes. But it asks the individual himself and not the "other" to stand in judgement.

The creative will must be disciplined, cautious, thoughtful but full of feeling. During the creative act the human being is most alone for he is in communion only with the thing created, which is why the experience releases an individual, delivered to his inner self, from depending on others.

Every human being is creative. Human society could not exist if this were not true. Consider women, the most mistreated, oppressed and deprived section of society. They have been denied their rights to education, health, freedom of speech but yet have survived centuries. Despite their lack of education and exclusion from the world of art, they have found their sense of being through limited opportunities: a song sung in a group, turning a worn sari into a Kantha for the baby, playing a game involving twings and stones with children, drawing a rangoli to celebrate the birth of a child, a prayer, a dream.
Thus, creativity is necessary for human growth the way water is necessary to sustain life. Denied the opportunity to make something children can only learn to destroy. Torn school books, graffiti on walls, burning buses, the violation of nature, the rape of human sensibilities and assassination of life are testimony to a world without creativity.

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