CREATIVITY

The question of defining creativity is a knotty one. At this point in the history of inquiry into creativity, most researchers accept a conceptual definition of creativity that includes two elements: novelty and appropriateness. In order to be considered creative, a product or response must be different from what has been before (a few theories hold the strong position that a creative idea must be completely unique). But the product or response cannot merely be different for the sake of difference; it must also be appropriate, correct, useful, valuable or expressive of meaning. Teresa M. Amabile and Elizabeth Tighe (1993) add a third element that the task must have been heuristic for the individual, rather than algorithmic. That is, the task as presented must have been somehow open-ended, with no clear and straightforward path to a single solution. Guilford (1965) observes that 'creativity' like 'love' is a many splendoured thing. There is still no consensus about how to define creativity. Colloquial usage of the term 'creativity' is one source of the problem. When the concept of creativity is mentioned...
some people immediately think of monumental achievements, such as Einstein's theory of relativity or Michealangelo's Sistine Chapel. Other people deem any activities in music, literature and the arts to be creative by definition. Still others see creativity in the clever and original ideas expressed by young school children. Perhaps because of the diversity of phenomena that have been called creative, researchers studying creativity have developed different definitions.

Rhodes (1961) condensed creativity into four roughly discriminating categories: person, process, press and product. Kneller (1965) observed that (a) creativity through the approach of person may be considered in terms of physiology, temperament, personal attitudes, habits and values of the person who creates, (b) explaining it by way of mental processes involving motivation, perception, learning, thinking and communicating the way the act of creativity calls into play, (c) press implies understanding of creativity by focussing attention on environmental and cultural influences, and (d) products of creativity include elements such as theories, inventions, paintings, carvings, poems and the like.

Numerous references occur in research literature which are in support of one or the other category mentioned.
above. A detailed description of these has been systematically organised by Gakhar (1975). Simpson (1922) emphasized the cognitive structure of creativity. Personalological approach considers creativity as related to unique cognitive factors (Guilford, 1950, 1956, 1957, 1959; De Haan and Havighurst, 1961) and also dependent upon certain non-cognitive factors (Barron, 1955; Getzels and Jackson, 1962; Mackinnon, 1962; Taylor and Holland, 1964; Cropley, 1965; Wallach and Kogan, 1965; Raina, 1968; Burke, 1969; Leith, 1972; Gakhar, 1973, 1975; Gupta, 1979; Amabile and Tighe, 1993). Persons can have, in greater or lesser degrees, the ability and inclination to produce novel and appropriate work and, as such, those persons may be considered more or less creative.

Creativity as a process has been considered by Spearman (1930), Ghiselin (1952), Taylor (1955), Rubie (1958), Bartlet (1958), Vinacke (1960), Mackinnon (1960), Barchillon (1961), Mednick (1962), Yamamoto (1964), Torrance (1965), Rogers (1976), Kant (1976), Brown (1977) and Gordon (1982). The analysis of creative process that is most widely quoted is still by Wallas (1926). He suggested that creative process can be divided into four stages: preparation, incubation, illumination and verification. According to Taylor (1975), the Wallas steps towards creative
accomplishment are valid, but it is also necessary to recognize the hierarchical levels of creativity and from lowest to the highest, they are: expressive creativity, technical creativity, inventive creativity, innovative creativity and emergentive creativity.

Mansfield and Busse's (1981) model of creative process in scientific fields involves five steps: (a) selection of problem that is important and potentially soluble, (b) extended efforts to solve the problem, (c) setting constraints to the solution of the problem, (d) changing the constraints through a restructuring process, and (e) verification and elaboration of results.

Creative products essentially involve elements of uniqueness or novelty. In some definitions of creativity (Stein, 1953; Piers, Daniel and Quackenbush, 1960; Rogers, 1962; Simon, 1964), novelty has been viewed in tangible products, but certain others (Stewart, 1950; Guilford, 1964) also find it to be present in intangible products. Thurstone (1952) argued that it does not make any difference whether the society regards an idea as novel. Amabile and Tighe (1993) products (scientific theories, art works, articulated ideas, dramatic performances and so on) may be more or less novel and appropriate and, as such, those products may be considered more or less creative. Stein
(1974) suggested that creativity results in a novel work that is accepted as tenable or useful by a group at some point in time.

Creative potential may be best actualised within favourable environment. Environmental conditions conducive to creative behaviour may be referred to as psychological safety and psychological freedom, socio-cultural influences and increased creativity through education. Rogers (1961), Torrance (1965), Hasan and Butcher (1966), Synder (1967), Goyal (1973) and Nograndy (1976) opined that conditions of psychological safety and psychological freedom should be set-up so as to maximise the likelihood of emergence of constructive creativity. Roe (1952), Rivelin (1959), Crutchfield (1962), Nuss (1962), Smith (1965), Hudson (1966), Oden (1968), Torrance (1971), Vohra (1975) and Vijaylakshmi (1980), Srivastava and Chandra (1989) and Kumar (1992) argued that high creatives generally come from higher socio-economic groups.

Educational nurturance too leads to actualisation of creative potential (Haddon and Lytton, 1968, 1971; Rogers, 1970; Glover, 1973; Ballard and Glynn, 1975; Holman, Geotz and Baer, 1977).

Toynbee (1964), the famous historian, considered creativity as the man's greatest asset and one of the most
valued qualities. It is the type of talent that can create history through reshaping man's world.

Weisberg (1993) says, "Creative thinking is based, not on 'genius', but on ordinary thought processes". He examined the evidence for the two basic components of the genius view that extra-ordinary thought processes are the basis for creativity and that creative individuals possess a special set of psychological characteristics (the genius personality) that plays a role in causing creativity.

However, in spite of these broadly discriminating categories of definition, it is not always possible to include a particular definition within one particular category. This is mainly on account of overlapping of one category of definitions with the other. Further, creative process without having reference to person, press and product is equally ambiguous. Torrance (1965), while accepting the process definition of creativity, has rightly raised the question: what kind of person one must be in order to engage most successfully in the process and what kind of product results from the process?

According to Endler and Magnusson (1976), understanding creativity, like understanding any aspect of human behaviour, requires us to take the interactionist perspective: behaviour is a complex interaction between
person and situation. In Amabile and Tighe's (1993) view "our componential model of creativity takes such an approach, by considering both factors within the individual and factors in the situation".

A truly interactionist model of creativity must include four features: (1) There must be a continuous process of multidirectional interaction (feedback) between the individual and the situations that the individual encounters. (2) The individual must be seen as an active agent, intentionally adopting goals and strategies that satisfy individual needs. (3) A third element that should be incorporated into a comprehensive, interactionist model of creativity is a detailed description of cognitive mechanisms (4) Finally the psychological meaning of the situation for the individual must be considered as crucial.

Hallman (1963) explains elements of creativity when he writes that (a) It is a whole act, a unitary instance of behaviour, (b) It terminates in the production of objects or form of living, which are distinctive, (c) It evolves out of certain mental process, (d) It covaries with specific personality transformation, and (e) it occurs within a particular kind of environment.

Many theories attempting to describe the creative process have been reviewed by Busse and Mansfield (1980).
Psychoanalytic theories of Kris (1952) and Kubie (1958) emphasize the importance of pre-conscious processes. These processes are believed to occur when the ego, with its emphasis on logical, rational thought, temporarily loosens its control of the thinking processes so that an unorganized, drive-oriented type of thinking can occur. To engage in pre-conscious thinking, one must allow oneself to day dream and fantasize.

Gestalt psychologists (e.g. Wertheimer, 1959; Kohler, 1969) use the terms "productive thinking" and "problem solving" to refer to what others might call creative thinking. The structural features of the problem itself set up stresses and strains in the thinker. By following up these stresses and strains, the thinker is led to a restructuring of the problem. Successive restructurings occur until a solution emerges. This model of problem solving seems more applicable to convergent problems with only one or more right answers than to divergent problems with many possible solutions.

Associationist theories involve the common assumption that creativity results from novel or unusual associations. Mednick (1962) defined the creative process as "the forming of associative elements into new combinations which either meet specified requirements or are in some way useful". The
degree of creativity depends on the relative remoteness of the elements used to form the new combination. When asked to respond to a stimulus word, highly creative people are likely to give remote or uncommon responses; whereas less creative people tend to give only common, stereotyped responses. Many researchers (Hadamard, 1945; Koestler, 1964, 1978; Haslerud, 1972; Gruber, 1974) have incorporated associationist principles into their theories.

A number of theories have been considered composite by Busse and Mansfield (1980) because they combine principles from psychoanalytic, gestalt and associationist theories. Hadamard (1945) developed a theory with psychoanalytic as well as associationist ideas. He proposed the same steps of the creative process as proposed by Wallas earlier: preparation, incubation, illumination and verification. The initial preparation period is conscious, systematic and logical but sets in motion some unconscious thinking processes that are essential to the incubation and illumination phases. The unconscious mind produces a vast number of associations among which only the potentially fruitful ideas, selected by the unconscious mind for their beauty or elegance, are allowed to reach consciousness in the phase of illumination. The last step of the creative process, verification of the value of the idea and
establishing its implications, is essentially conscious. Koestler (1964, 1978) developed a "bisociation" theory of creativity. In bisociation, two independent matrices of ideas come into contact, but this occurs only subconsciously through a regression to the preconscious thinking processes stressed by psychoanalytic theorists. Rothenberg (1979) has proposed a psychoanalytically based theory that highlight two thinking processes which like bisociation, facilitate association of independent ideas. Gruber's (1974) theory draws on the associationist and Gestalt positions as well as on Piaget's theory of cognitive development. In his view, creative accomplishments are fueled by conscious, purposeful actions. Creative thought is preceded by a period of persistent search and enquiry. After such a period, idea discovery can occur. Discovery results not from a single association but from a succession of small changes or restructurings. In Teresa and Tighe (1990) theory of creativity, there are three basic components within the individual that are required for creativity in any domain of endeavour. The first component is referred to as domain-relevant skills. This component includes several elements relating to the individual's level of expertise (skill and potential skill) in the domain. It includes basic intelligence for doing work in the domain (often referred to
as talent) and knowledge acquired through formal and informal education, experience in the domain, and technical skill acquired.

The second creativity component is referred to as creativity relevant skills. It includes cognitive styles and personal styles that are conducive to generating novel and useful ideas in any domain. The third creativity component is task motivation, one's self perceived motivation for engaging in a particular task in a particular domain at a particular point in time. Task motivation may be primarily intrinsic or primarily extrinsic.

Sternberg and his colleagues (1991) have published a model of creativity that takes the elements in Teresa's componential model and, essentially, reorganizes these elements into somewhat different componential grouping. The Sternberg-Lu-bart theory, knowledge component is essentially the same as Teresa's domain-relevant skills component. Their motivation component is essentially the same as our task motivation component. They divide elements of Teresa's creativity relevant skills components into three more elaborated components: (1) processes of intelligence (flexibility in problem definition, reconceptualization existing problems in new ways, and various information processing heuristics) (2) intellectual styles (intellectual
independence, wide or global categorisation of information, and risk taking); and (3) personality (tolerance for ambiguity, preservance, openness to change, risk taking, and individuality). Finally, the Sternberg-Lubart theory include the environment as a sixth component. Other recent theorists (Feldman, 1980; Gardner, 1988) have considered the role of environment in an even broader context. These theorists suggest that the creative behaviour of individuals working in a particular domain can depend heavily on the state of development of the domain itself and on the broader social/cultural/political context in which the individual is working.

Within this diversity, two fundamentally different approaches to the study of creativity can be distinguished. The first defines creativity in terms of test performance. The divergent thinking test developed by Guilford (Guilford, 1967; Guilford and Hoepfner, 1971), Torrance (1966) and others to measure divergent thinking abilities have often been used as measures of creativity. Researchers who use tests to measure creativity assume that the abilities being tested are essential to real life creativity and that persons with high test scores have high potential for creative accomplishments. But Wallach (1971) is critical about this view because many studies defining creativity in
terms of test performance are misleading.

The second broad approach to the study of creativity avoids such problems of attempting to measure real life creativity directly and then relating it to other variables such as personality characteristics and child rearing experiences. Real life creativity is expressed in products such as poems, symphonies, books, inventions and scientific theories. Jackson and Messick (1967) have proposed that creative products are characterized by four features - novelty, value, transformation and condensation. A creative product must be novel, possess small value or appropriateness and characterized by properties of transformation and condensation.

In Teresa and Tighe's (1993) view, "creativity is a quality of persons, processes or products. Persons can have, in greater or lesser degrees, the ability and inclination to produce novel and appropriate work and, as such, those persons may be considered more or less creative. Processes of thought and behaviour may be more or less likely to produce novel and appropriate work and, as such, those processes may be considered more or less creative. Products (scientific theories, art works, articulated ideas, dramatic performances and so on) may be more or less novel and appropriate and, as such, these products may be considered
more or less creative”. For research on school students, creativity is usually measured in terms of test performance because the real life creativity among them has yet to be crystallized and needs more time to emerge in terms of creative products.

Creativity, in the present study, has been operationally defined as "the process of sensing gaps or disturbing, missing elements, forming ideas or hypotheses concerning them; testing these hypotheses, and communicating the results, possibly modifying and retesting the hypotheses" (Torrance, 1969). Its measure is the total of scores in fluency, flexibility and originality as measured by Torrance's Test of Creative Thinking (TTCT), verbal, Form A (1966). Fluency is the ability to call up relevant ideas where the quantity, and not the quality, is emphasized. It is the total number of relevant responses, i.e. the total number of responses given by the subject minus the number of duplicate and irrelevant responses. Flexibility is the ability to produce diversity of ideas with a number of shifts. Originality is the statistical infrequency of responses or the extent to which the responses deviate from the obvious and the common. Creativity, thus measured, involves the ability of being sensitive to a problem, giving a large number of relevant and different types of responses.
to a particular situation as also originality or uniqueness of the ideas.

SOCIO-ECONOMIC STATUS

Any social class or strata has two aspects — subjective and objective. In its subjective aspect, a man's class is a part of one's ego, a feeling, on his part, of belongingness to and identification with something larger than himself. In its objective aspect, 'social class is the totality of individuals, the people of which have similar position in regard to occupational, economic and political status' (Sorokin, 1959).

In reality the various social classes of a society are not quite unrelated to each other, especially in modern societies where greater degree of social mobility exists in comparison to old societies, in which classes were chaired by rigid caste and customs. In such a society social status can be thought of as a continuous variable. Social status is the position of individual within the social relationships. It is the specific position of the individual in his relationships with other individuals by virtue of which he derives respect and prestige and whereby he exerts influence which is shown by the symbols or signs and actions of the respect tendered to him. The status in a group may be
Inherited but in modern society status is achieved. It may be achieved on the basis of occupation, membership of certain clubs, associations and organisations, type of house in which a person lives, the area in which the house is situated, the ownership of various house materials (e.g. radio, TV, machines, car, etc.), type of school in which the children study, type of newspapers and journals subscribed and caste of the individual. The economic factors play an important part in determining social status, which includes the total income of the family, savings, capacity to collect money in emergency etc. Therefore, it is better to call this factor as socio-economic factor rather than social or economic factor.

Chapin (1928) has offered most widely used definition of socio-economic status as "the position that an individual or family occupies with reference to prevailing average standard of cultural possessions and participation in group activity of the community.

Kulshrestha (1987) defines socio-economic status as any group of persons coming closer to each other on the continuum of occupation, education, caste and culture.

Good (1973) defines socio-economic status as 'the level indicative of both the social and economic position of an individual or group'.
In India, Lewis and Dhillon (1955), Rahudkar (1960), Kuppuswamy (1962), Verma (1962), Pareek and Trivedi (1964), Pandey (1966), Singh (1967), Satya Prabha (1969) evolved their scales to measure the socio-economic status of the people. These researchers have tried to make their scales more comprehensive. However, many variables like membership of voluntary organizations, the area of living, the type of schools in which children studied, caste, saving, etc. have been left in these scales.

Kulshrestha's (1987) 'socio-economic status scale' serve as comprehensive, reliable and valid tool for recording the information about the socio-economic status of urban people.

ADJUSTMENT

Adjustment is a term which is mostly applied in the field of mental health. Adjustment is the process of behaviour by which men and other animals maintain an equilibrium among their various needs, or between their needs and the obstacles of their environments. A sequence of adjustment begins when a need is felt and ends when it is justified.

Adjustment depends largely upon how an individual interacts with his environment particularly social
environment in satisfying his needs and in meeting demands placed upon him. While describing the process of adjustment, Miller (1955) said "All living systems maintain steady status of many variables by negative feedback mechanism which distribute information to sub-systems to keep them in orderly balance with their environments which have outputs into systems and inputs from them --- There is a range of stability for any parameter of variables in any system --- inputs --- which, by lack or excess, force the variables beyond the range of stability constitute stresses and produce strains within the system. These strains may or may not be capable of being reduced, depending upon the equilibratory resources of the system". "Should the input stimuli be pleasurable, the individual seeks to maintain or to increase them. Should inputs be noxious or irritating (as with pain or hunger), the individual seeks to reduce, remove or to avoid them. If they cannot be reduced, removed or avoided, a condition of stress builds up which is experienced as unpleasant and if permitted to continue, could threaten or disrupt the smooth and coordinated functioning of the sub-system. This causes a mobilizing or accumulation of energy. Energy thus built up demands release and many results in responses that will either remove the
stimuli, reduce the stress or permit release of the pentup energy" (Brown, Bernen and Russel, 1966).

In simple words, adjustment may be defined as a person's interaction with the environment. Each person constantly strives to meet his needs and reach his goals. At the same time, he is under pressure from the environment to behave in certain ways. Adjustment, thus, involves reconciliation of personal and environmental demands.

Adjustment involves a reaction of the person to demands imposed upon him. These demands can be classified external and internal conditions of existence. Failure to comply these demands results in disapproval of consequences and our conformity to them leads to approval and positive consequences. Good (1973) defines adjustment as, "the process of finding an adaptive mode of behaviour suitable to the environment or to change in the environment".