CONDITIONS WHICH FOSTER CREATIVITY IN THE INDIVIDUAL

by

Leonard Cisneros

A Thesis Submitted to the Faculty of the

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

In Partial Fulfillment of the Requirements
For the Degree of

MASTER OF ARTS

In the Graduate College

THE UNIVERSITY OF ARIZONA

1 9 7 5

STATEMENT BY AUTHOR

This thesis has been submitted in partial fulfillment of requirements for an advanced degree at The University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this thesis are allowable without special permission, provided that accurate acknowledgment of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department or the Dean of the Graduate College when in his judgment the proposed use of the material is in the interests of scholarship. In all other instances, however, permission must be obtained from the author.

SIGNED: Leonard Cisneros

APPROVAL BY THESIS DIRECTOR

This thesis has been approved on the date shown below:

Ruth W. Kingsley

RUTH W. KINGSLEY
Professor of Educational Psychology

May 2, 1975
Date

TABLE OF CONTENTS

ABSTRACT

The process of creativity has been found to be affected by conditions in the environment. Factors may reach the inner psychological states that could be conducive to creativity, may be influential to the abstract thought processes which are elemental to the creative process, or be psychosocial determinants capable of creativity. What all these factors have in common is the establishment of independence, nonconformity, diversification, openness to experience, originality, curiosity, deferment of judgment, exploratory patterns, and self reliance. Major areas that have been separated as being capable of providing these characteristics are culture, family patterns, sex, and education. Culture provides the basis for interaction patterns with the environment. The family determines directly how much of the cultural norms will be permitted or discouraged. The sex of the child defines ways in which the child may react and in which the child may be reacted to. Finally, the child's mental growth will be directly in the hands of the education system which determines the direction of thought processes.

CHAPTER 1

INTRODUCTION

There is an increasing interest and curiosity about the creative process among diverse groups of people. Everyone is intrigued with the idea of possibly developing talents in himself and others (Rosner and Abt 1970). Among the questions asked are whether creativity is an innate process or whether there is a relationship between education and the development of creativity.

The study of creativity began in the latter part of the nineteenth century. One of the more well-known psychologists to have studied it at that time was Freud. There was a recognition of the differences in mental processes (Ribot 1906). One was identified as intellectual while another aspect of thought was seen as intuitive and insightful. The less abstract process had had little attention paid to it by way of exploration into its nature. By the turn of the century, little had been written about it.

Hence, identification of a mental process much related to intelligence was an impetus for research into creativity. Slowly the fever of excitement caught on. Now the area abounds in quantities of literature and research. In accordance with research findings, creativity has been

divorced from intelligence by one school of thought, while another camp has maintained that creativity is concurrent with the other.

One side argues the characteristics of creativity are antithetical to intelligence. The counterpart states that if intelligence is present, responses tend to be of a more creative nature. The two characteristics are related and occur at the same time.

The dispute rages on. What has produced much thought has been factors correlated to creativity. Ways to increase it and blockages have all been studied. Prolific research has been done on every factor to prove or disprove the relationship to creativity.

Many theories have been derived to explain the process. To establish a reference point, a definition has been chosen from which the various premises that will be dealt with later on were derived. Creative thinking is the forming of associative elements into new combinations that meet specified conditions or are useful in some way. The more mutually dissociative the elements of the new combinations, the more creative the process. However, the originality is not the only prerequisite for creativity. Rather the usefulness of the process for the particular situation is the designating point of creativity (Mednick and Mednick 1963).

One particular area under study has been that of those environmental factors which have been found to be determining factors

to varying extents in the expression of creativity. Evidence has been compiled to support these aspects in varying degrees.

A conceptual treatment of the problem has been seen to be of significance in that there has been a great deal of importance placed upon creative thinking. To study creative thinking one must also know what produces creative thinking.

The educational input is one such factor. Schools have been pushed to emphasize the creative area of students' thinking and production. It is necessary to know what areas need be emphasized in the students' life cycle. The attitudes and behavioral interaction of the teacher in the classroom is significant. The structure of the teaching methods, teaching tools, and class interaction all intertwine and can produce creativity if the educational system fosters independence, self-reliance, and exploration.

A child's sex may affect his creative levels. The cultural inputs on both sexes leads to increased creativity in males due to the function of independence in the male role. Less restriction on boys' behaviors gives them a broader range of experience from which to draw.

If the family encourages a child to be independent, exploratory, self reliant, and nonrigid, the child is very capable of producing

divergencies. The interactions within the family and views of non-conventionality help the child to grow creatively.

Whether that creativity will survive or not is dependent upon the structure of the culture. How conducive a culture is to creativity is determined by its sanctions for or against liberality of motion. The norms, roles, institutions, etc., a culture establishes are all frameworks within which creative processes may thrive or perish.

With increased knowledge of conducive atmospheres for creativity it can be found which stresses need be made and what blockages need be removed. The study of the problem allows for more direct application of procedures necessary for increased creativity. Factors need to be found that are conclusively beneficial to the exhibition of creativity whether they be scientific or aesthetic. There has also been an upsurge of interest on behalf of the public in creativity. Scholastic bodies have been studying the problem on its intellectually stimulating and puzzling nature. The problem has been discovered and answers need be found. Creativity then gives stimulation to various organizations, groups, and minds as being worthy of investigation.

CHAPTER 2

THE FAMILY AS A FACTOR

The family is one of the earliest variables to consider in the determination of creativity. It is the basis from which the child may potentially grow into creativity. It is the preliminary step that implants the seeds of creative thought. Through the experiences in the family, interaction patterns with the parents, guidance, and socialization the child may well develop the type of thought pattern considered to be creative. It is through the family influence that basic patterns can be established in regard to independence, nonconformity, attraction for the unusual, willingness to experience, and the attraction for the complex that are so characteristic of the creative person (Mooney and Razik 1967). The family is an essential and primary step towards creativity. Those areas to be covered in family life that have been found to be of significance in determining creativity are family patterns and parental characteristics.

Family Patterns

Families in which children are not so tenaciously bound to the ritual of elders allow for depersonification of thought. At the same time, the potential to attain or maintain good interpersonal relationships is

retained because of the certainty of warmth of the welcome awaiting the child upon his return from an impersonal journey to his environment or from reward paradigms (Markowitz 1972). The child then is allowed independence of thought. He is allowed to wander with his mind and to become involved with his own ideas rather than repeating words that one who is close has deemed important. Instead, an encouragement of freedom is given. Yet, relationships within the family are not cold nor rejecting, but rather supportive of growth and travel into the realms the child has chosen.

Definite differences do appear in the enrichment and stimulation the creative child receives from the number of siblings, and closeness of the parent of the opposite sex (Gowan 1971). The child is given a wide variety of experiences through his siblings and their varying personalities. Role playing and information gathering are vastly enhanced through the presence of other children.

In addition to freedom, support, enrichment, and stimulation, families of highly creative individuals show hints of a freer style of family life, higher socioeconomic status, more inclination toward the arts rather than the sciences, and inclination toward liberal political and social views (Gowan 1971). The style of family life being freer can be seen to be directly related to the creative person's craving for lack of restrictions and opportunity for independent thought and action. Such a life style is an impetus for action in the environment that is characterized

as creative. The unusual and novel is more likely to be found if the person is not highly conforming. Having grown up in a life style that enables one to proceed in quite different paths regardless of social comment frees the individual for independent thought not hampered by restrictions that bar the possible solution or aesthetic product from coming to life.

A conservative approach is cautious. Caution automatically rules out certain possibilities as being too risky to be worthwhile as alternatives. However, if the child is allowed to wander considerably from oppressive caution the child is more likely to discover new ideas, processes, or methods that would remain undisclosed for fear of censure, rejection, or other negative feedback (Dreyer and Wells 1966).

The freer life style may also necessitate the higher socio-economic status as more independence is allowed to individuals in such income brackets (Gowan 1971). Alternatives are more plentiful as well as sanctions for more varied behavior being more bountiful in the less confined upper classes with more time and money to devote to intellectual and aesthetic discovery. The more liberal views may be seen as a result of the freer life style as well as the orientation towards the less restrictive and more individualistic viewpoints.

Showing more differences from the general mode of family patterns the family of creative individuals tends to have at least one person

in the home playing a musical instrument thus showing a more sophisticated and varied level of interests and actions (Anastasi and Shaefer 1969). Here again, there is evidence of the tendency to like many diverse and stimulating activities. People who are highly creative tend to come from families who are not overly close (Mooney and Razik 1967). The child thus has more of an opportunity for independence and an ability to see that there are many diverse methods of stimulation other than dependent relations with others. Their minds are more prone to view ideas as being of value and interest. Also with less overly restrictive bonds the child is free to act on his own and behave creatively with independence of thought and personality.

While families of creative individuals do not bind to any great degree, there is an expectation of the right behavior while there is no attempt to force its appearance (Taylor 1964). This gives a good deal of freedom and personal responsibility at an early age with the largely unenforced expectation that he would behave in a creditable manner. There is the freedom to choose on its own merits whether or not a value should be accepted as valid with ensuing independence of thought to question the validity of the action. In order that the child may see these behaviors the child must see their expression. The parents of creative children openly and freely express themselves (Araseth 1968). Thus the child is able to see highly respected individuals engaging in many behavioral patterns which are not societally sanctioned and which are

normally inhibited due to fear of embarrassment or reproachment. The child grows up with the tendency to view self expression as totally acceptable. Divergences are more likely to be tolerated and thereby allowing for a wider range of emotional experiences. Also, embarrassment at expressiveness may be removed so as to allow exploration and discovery in areas normally restricted because of unstated sentences to the effect that these areas are forbidden and closed off. What underlies the issue of expression is the freedom and willingness to experience novelty and to experience familiar modes in different ways. With the opening up of expression, novel findings and new combinations may be allowed to surface.

Creative children experience less coercive discipline, especially of a physical nature. Parents want their children to be able to handle their own situations as well as recognize their misdeeds without the need to force them to behave according to what the parents feel is right. The child is again given the right to choose and he knows that the option is there. A pattern is established which allows the child to be free thinking and independent. Behavior is recognized as being carried out because of the specifics of the situation rather than because of regulations for that behavior. The creative child has a family pattern that does not inhibit the child in the development of his individual patterns of viewing the world but rather stimulates that development (Mooney and Razik 1967).

Another form of stimulation that the child receives from the parent is educational. This is provided by the impetus or independent thought, the introduction to various fields in the home, and the teaching of the valuing of ideas (Taylor 1964). The parent indirectly leads the child to seek to be introduced to educational stimuli. As a result, the child may be eager to pursue and discover new things. The creative individual, as a child, was given an unusual amount of freedom in making decisions. Exploration of the environment ensued (Araseth 1968). Neither was there overprotection nor rejection from the parents. There is then evident a pattern of freedom but not a lack of support. The support, however, is of a moderate proportion and does not go to either extreme end of the continuum. Rather parents of creative children had extraordinary respect for the child and confidence in his ability to do what was appropriate that they granted him the freedom to explore his world and make decisions for himself (Dreyer and Wells 1966).

In developing creative children, parents have also provided toys which can become a variety of things rather than toys that are structured (Torrance 1962). Toys that are not limited to one method of playing with them stimulate imagination. The child is not restricted by regulations of play but is free to choose ideas, novelties, and movements. His mind is loose to work in whatever direction brings enjoyment. Also, these parents shared in the child's wonder at flowers, kittens, and other natural delights. The child is allowed a richness of stimuli and is

encouraged to use his imagination rather than stifle it. As an aid in developing creativity, parents should help the child in his search for truth by exploring the meaning of words (Torrance 1962). Curiosity can be encouraged by being delighted with the child over new things positive and happy. He should be given the freedom to explore, and at the same time be prepared for new experiences so that he can cope with strangeness.

Reward can be used as a training device for productive environmental interaction rather than punishment (Taylor 1964). Punishment has a limited effect on behavior and the creative person is less likely to be affected by means which try to coerce a response out of him. The creative person is more likely to develop an interest in toys on a selective basis due to the interpersonal relationship to his parents (Brown 1970). It is wise to remember this selectivity when trying to coerce the child to take any toy. The creative child here shows a greater discrimination in thought patterns than comparable children of less creativity. The factor of individual responsibility and choice has begun to exert itself.

Parental Characteristics

In order to establish that sort of interpersonal relationship that aids creativity rather than hindering it, several personality characteristics of the parents must be present. Parents of highly creative children would themselves be less stereotypically sex typed and would

differentially foster these roles in their children (Dreyer and Wells 1966). Parents teach what is appropriate behavior. Since they exhibit a wide range of behaviors and enter many different areas regardless of social definition the child learns to broaden his concept of sex role. He is not limited to certain views of what is appropriate but rather allows himself to experience the wide gamut of experience that the two sex roles combined afford.

Parents of creative children also free their children to develop at their own speed and do not display anxious concern about the skills and abilities of their children (Cashdan 1971). The child is then faced with the possibility of experiencing and learning at a rate that is compatible with him. He learns to be responsible for himself with a subsequent development of independence. The lack of anxiety does not make the child fear there is something negative connected with his actions, thus enabling him to feel positively about enjoying to explore his surroundings and actively seek out solutions to problems by being freed from constraints (Araseth 1968). He is more capable of searching down lines of thought and action that are not commonly associated with the problem and, thereby, result in a creative discovery.

Parents of creative children tend to pair creativity, independence, and initiative with cooperation, socialization, friendliness, and lack of inner hostility (Dewing 1970). These parents balance individualism with social cooperation so as not to produce persons interested

only in bizarre, unproductive behavior. The stress is on independence. A move is made toward the productive, smooth functioning of the individual.

There is that tendency to take in so much of the environment and still want more because of the influence of the parent. Curiosity cannot be quenched. It must be satiated with the consequent involvement in active pursuit of the environment. Rules made by others do not allow the creative person to see the actual workings so that he digs to find the answer if the problem presents itself as worthwhile to him. A lack of restriction and an emphasis on experience may further his thirst for exploration.

In examining parental characteristics, those of the father will be dealt with first. The father is often the decisive factor in providing identification, stimulation, and prodding the child's talents (Araseth 1968). He is seen as a model worth emulating because of his own particular and varied characteristics. He stimulates and prods his child's talents in that his own openness to experience leads him to activities with the child that are of vibrant stimulation and a challenge for further growth of the child's talents.

Fathers who had more autonomy in their jobs tended to have more creative children. The independence the father enjoyed was transmitted to the child in the father's expression of satisfaction with his independence. The child picked up on the wonder of having so much

freedom so as to emulate the father in situations calling for independence and, thus, receive the same type of satisfaction that the child knew the father was receiving from his autonomous situation.

The characteristics of the mother, on the other hand, show quite a variation as compared to the father. Mothers of highly creative children tend to come from homes that are not middle class and describe their family in less stereotypic terms, showing their aversion to putting things into rigid classes (Mooney and Razik 1967). The mother shows characteristics that would not produce rigid set modes of thinking but rather more open, tolerant views of thinking. In being that way, she inadvertently transmits the characteristic to the child through her actions and feelings.

It has been found that the creative individual displayed a significantly stronger attachment to and positive feeling toward the mother than the father in early life, unlike people of low creativity (Taylor 1964). The mother of the creative child is more likely to be less concerned with a place in the community and more concerned with everyday interests (Dreyer and Wells 1966). This type of mother is more likely to be individually concerned while negligent of socially imposed factors of importance such as social position (Dreyer and Wells 1966). This nonconforming attitude aids the child in his development of independence. He is more likely to see the value in going against something of no interest to him irregardless of social consequence.

The maternal figure of the creative individual, while highly valued, may be more ambivalent towards her children than mothers of low-creativity children (Mooney and Razik 1967). She tends to see the child as a source of satisfaction and yet a burden to her in that she is not truly free to move into situations as easily as she would prefer because of the care the child needs from her. This follows with the finding that mothers of creative children tended to be less compulsive and less accepting of their mother role (Mooney and Razik 1967). She is of a nature that does not tolerate habitual and rigid action constantly, but rather enjoys variety and stimulation. Instead, she considers such maternal deification a detriment to her independence and freedom (Mooney and Razik 1967).

While mothers of creative children tend to be less accepting of their mother roles, they are more accepting of their children (Mooney and Razik 1967). They tend to see less objectionable characteristics in their children than mothers of low-creative children. Their tolerance for differences allows them to be more accepting of the characteristics of her own child. Variance in her offspring's characteristics are acceptable as a secure individual is what is sought. The individual may be diverse but that does not prevent him from achieving a sense of security. With emotional security comes the ability and confidence to act in ways that are independent and that involve risk-taking behaviors. Through the interaction of the parent and child, as well as familial patterns,

creativity can be seen as a possible outcome. Parent-child relationships and family patterns are more instrumental in fostering creativity than any other determinants (Araseth 1968).

CHAPTER 3

CULTURAL DETERMINANTS

The culture in which the child grows up significantly influences creative expression. Norms, sanctions, and expectations may either make creativity flourish or make it diminish. Culture provides a network for the work of creativity. This network is a set of guidelines that specify what types of behaviors and ideas members of a culture may exhibit. Rewards and punishments are established for particular modes of expression. Depending upon how much the culture rewards for creativity and how much it punishes for original expression will determine to a great extent the degree of creativity shown by its members. Through this network, creativity may be allowed free passage or find blocks to its progress. The variable of culture extends greatly the number of factors that come to play upon creativity. Add culture and complexity and possibilities are increased. Three areas will be touched upon that relate to culture. The first is the atmosphere the culture provides the individual. The second is the variable of social class and, finally, the blockage to creativity that the culture exhibits.

Cultural Atmosphere

If a person is to be creative he must be in a situation where originality, independence and nonconformity are permitted by the rules of the culture and by previous learning (Straus and Straus 1968). The individual must have the freedom to express himself without negative feedback being given for different responses, and instead be rewarded. His uniqueness and originality must not be chided but accepted and even praised. The freedom he is allowed will lead him to develop independence and nonconformity that are necessary for originality. The independence of thought and action will free him to think and act originally without fear of being reprimanded. His stepping into ideas without fear of censure will show a nonconformity to no set pattern, but will show novel combination.

To stimulate such independence, the culture must allow people to do work in areas that they value. These valued interests will arouse their creative ability (Alamshah 1967). The person must have the freedom to choose any area he values even though his chosen one may not be the one in which he is most talented. If the person is intellectually gifted to be a nuclear physicist but prefers being an interior decorator, he should be allowed to work in the latter field. With a passion for his work, creativity will be boosted. Freedom to work in whatever one chooses can be an aid to creativity. Autonomy is conducive to the creative process.

Through freedom of career choice, that fervor for satiation of curiosity will be bound to produce creative acts and thoughts. It is necessary that the individual be supported by his culture to do as he feels is best for himself. If the cultural surroundings permit such freedom of movement, the state of the individual will also need support for there to be a continuity of such work.

The culture may teach the child to acquire such traits through its socialization process. The upbringing of children in the aforementioned traits will influence the appearance of creativity significantly. The socialization process need not be so direct as to be a rigid step by step program, but through subtle inferences, psychological processes, and sociological processes the influence will be conveyed very distinctly.

The need to love, to understand, and for beauty will motivate the individual to seek out the creative (Alamshah 1967). The appreciation of beauty will be most clearly related to creativity. Appreciation of the aesthetic and its creation are tangible examples of creativity. Though tastes may vary according to cultural and psychological input, there is a connection between beauty and creativity. The need to love necessitates a creative flowing of personality factors. To learn to love creatively, the individual must recombine behaviors and emotions in many different ways to display the same feeling of love. To take what is common and work on it so as to produce something new and rewarding

is quite a task. The culture must allow much leeway for individuals in day to day living to enhance the possibility of recombinations. Only through constant searching and experimentation may creative products be had, whether in love or art. To understand the proceedings the mind must work through many external and internal characteristics to be able to comprehend them. It cannot be possible to understand without the freedom to delve into areas with as much openness as possible.

Other motivational factors also come to play in addition to those already mentioned. A need for emotional involvement with ideas rather than people is essential to the creative process (Datta 1968). Once the creative person is working on that particular project, a great deal of his energies will be devoted to that work. The culture must support such work so as not to discourage the appearance of creative works. The emotional involvement with ideas comes to the foreground as it stipulates an independence without which original and nonconformist products cannot be made. The person is free to entangle himself with his thoughts and not be distracted by outside social interference. Development of his work will proceed much more smoothly and with much dedication.

As an example of cultural input, a study was done on American and East Indian societies. It was found in comparing mean scores from the American sample with the Indian sample that American scores tended to be higher on creativity measures (Straus and Straus 1968). This was

explained as being due to the increased conformity structure of the Indian family versus the independence seeking of the American family. Here it is seen how the restrictiveness of conformity sanctioned by culture has an adverse effect on creativity.

The culture must allow deviation from the traditional, allow individuals to seek new experiences, and allow adults to reward and accept the creative experience (Mooney and Razik 1967). Only through exempting individuals from conformity and advocating diversity may culture increase the advent of creativity. A culture fosters creativity to the extent that it provides an individual with the opportunity to experience its many cultural facets and communicate his feelings or ideas through media that the culture provides.

Culture also induces creativity to the extent that its parent-child relationships and child-rearing techniques do or do not result in the setting up of rigid boundaries in the inner personal regions (Mooney and Razik 1967). Children must be able to roam through their psychological fields without fear of being blocked without good reasons. They must not be rigidly held into a restricted region because of rules that have never been questioned. Restriction will only limit creativity. Freedom will enhance it.

To clearly demonstrate the stifling effect culture may have on creativity, a study was done of fourth grade children. It found that children lose their creativity at this grade level due to the increased

importance of peer pressure and gang conformity (Torrance 1962). Clothes and male-female roles all conform to certain norms. Only the unusual child can withstand this pressure, and while in a few creativity does return, in most it disappears forever. The fourth grade has been fairly set as the level at which most children undergo this increased awareness of social pressure and succumb to it. It is an example of a process of socializing individuals to behave strictly as the culture stipulates. This rigid socialization is adverse to the growth of creativity.

In the American culture, achievement is measured by good grades, material wealth, and furthering one's organizational status. For the creative, achievement revolves around introducing novelty, creating change, breaking rules, and substituting new ones (Cashdan 1971). Hence, the creative person stresses novelty while noncreative people stress established characteristics. The subculture which promotes creativity tends to have characteristics of the creative person, thus, engendering facility for creativity to grow in such an atmosphere. This particular type of subculture is supportive of creativity and further explicates the relationship between culture and creativity.

Our culture is not totally disorganized. Creativity to a large extent is a product of the necessities facing the individual and the ways in which he copes with these necessities (Markowitz 1972). Some traditional form must be retained in order to permit creative expression.

Only that degree of organization that is essential to creativity must be kept, however.

The importance of a permissive atmosphere can be seen in that the creator must have the freedom to create. He must live in an indulgent society in which he can announce what he has discovered with assurance, if not acceptance, at least of a sympathetic hearing (Haefele 1962). Creators who have succeeded have found some audience willing to grant permission to try and be able to hear and praise intelligently. Recognition acts as an important factor in the creative process and on the personality of the creative individual. Pride and reward for his work will lead to a better climate for creativity.

The elements of creation must be present in the existing culture before invention can be made (Patrick 1955). The interaction of the elements of social forces will result in creation. But in order to keep creators from becoming stagnant and unproductive a climate must be set up that enables individuals to seek out alternative goals and ways in which to reach these goals so as to keep creativity intact (Haefele 1962). The elements must be there and care must be taken that these elements are not rigidly compartmentalized so as to block a work in its direction for solution.

Social Status

Socioeconomic status is a large, important variable in determining creativity. Lower class parental attitudes tend to evoke anxiety toward school learning and, hence, encourage convergent thinking (Anastasi and Shaefer 1969). A move is made toward the practical and concrete aspects of interacting with the environment. Behavior must conform very strictly with established norms or some trouble will arise from outside forces of the more prominent and powerful citizens, legal forces, or organizations and agencies which have the jurisdiction to come in when disturbances of the social order occur.

In addition, lower class homes tend to have more children in them, thus, a lack of concern on the parent's part. Resulting lack of attention may impede on creativity of such neglected children (Lichtenwalner and Maxwell 1969). Lower class parents are more likely to exert control by harsh punishment, thereby repressing creative behavior. The lower class child will have instilled in him the idea that one must behave in certain ways, otherwise harsh and unexplained punishment will follow. He will learn to do as he is told or suffer the consequences. As the child does not wish to suffer unnecessary pain, he will learn to restrain his behavior and thought to avoid punishment. He will be cautious in his outlook, and since cautiousness is negatively related to creativity, his potential will be lowered (Alamshah 1972).

The lower class home, as well as being restrictive, is less likely to provide the stimulating physical environment essential to the promotion of creativity. Instead, the home is more concerned with where today's meals will come from, where the money will come from to pay essential bills, etc., to bother with the child to any great extent. Work around the home, in addition to outside employment, will deprive the child the chance for interaction and stimulation with adults. There will be less support for ideas of any sort as the physical surroundings and conditions of the lower classes demand more attention of simple action to be able to maintain the bare necessities of existence. The more abstract matters will be ignored for lack of time, opportunity, and ability.

On the other hand, the more stimulating environment of the middle and upper class homes, plus the differences in schools in better areas, may result in brighter students (Dewing 1970). More successful and happier at school, the upper classes' children will be more confident and cooperative. This kind of atmosphere can lead to increased creativity. The home environment of the child favors creativity in its more verbal and rational approach to punishment, the opportunity for varied activities, the tolerance of sex-role discrepancies and the increased opportunities for seeing the diversified situations is favorable. In its advocating that individual members accomplish for themselves, it has understated an independence and pride in one's achievements.

The middle and upper class homes are of the type to encourage a variety of play among their children and to afford opportunities for them to exercise this play.

The valuing of accomplishment as well may result in the child's being made aware of support of his creative ideas by his family that have been given recognition by outside bodies. In supporting a child who is doing well, the parents have encouraged the child to keep seeking ways in the environment that are interesting and rewarding. The family environment also provides a wealth of elements that could possibly be used by the child for creative growth. The range of intellectual experience and stimulation that the child receives from the upper middle class home may be particularly facilitating for the development of creative potential (Miller, Singer and Fullerton 1969).

The middle and upper classes while they may have increased opportunity for producing creativity-spawning environments also have potential for inhibiting creativity. Middle class conformity which is enforced upon its members will reduce originality and, thereby, creativity (Janssen 1968). The middle classes are extremely conscious of social position and what others think. To be as conscious of such influence from others produces a conformity that is transferred to the children. Norms are very rigidly set up in these classes for acceptability so as to insure that creativity can be lessened by such a group consensus on the appropriate.

To test the effect of middle class conformity a study was done in which lower class dropouts were compared on creativity scores with lower class non-dropouts. The lower classes have been found to adhere to middle class conformity as a means for hope of social mobility. The dropouts were found to be significantly more creative than non-dropouts (Janssen 1968). It was found that middle class conformity lowered creativity. In another study of lower class girls and middle class boys, lower class girls were found to be low in creativity (Greenberg, Shore and Davidson 1972). This may be explained by the two classes treating their children to rigidly adhere to standards set for them. Upper class girls did better on creativity tests than middle class boys because they are given more freedom and fewer fear-oriented threats of punishment. Thereby, they would be better able to express their ideas more favorably.

It can be seen that depending upon the standards of the social class and how well they are adhered to, as well as the opportunities and life style of the social class, creativity will be affected immensely in one direction or the other.

Cultural Blockages to Creativity

The culture, in addition to being a favorable condition for creativity, can be a direct block to its expression. The American culture will be kept in mind when discussing the aspects that culture can have a negative effect upon. If the environment is sterilized and

the child insulated from difference, the opportunity for the child to develop rebellion that may encourage new enterprise is lessened (Markowitz 1972). The culture must not succeed in thinking itself to be the only viable alternative worth knowing about. It must allow for differences to be known and explored. New ideas must be given a fair opportunity for development irregardless of what culture it may have come from. The environment must be continually examined and new concepts introduced for examination. Otherwise the environment is likely to stagnate. Ideas already known must be reexamined to test whether they hold true or not any more.

In addition to the quality of the cultural environment, aspects in it are significant to creativity. The forbidding of expression of excessive emotional feeling, the lack of tolerance for ambiguity, and the intolerance of people who go against cultural norms all add to the obstruction of creativity (Krippner 1967). Emotional sterility does not allow the individual to experience a wide range of emotions and behaviors. Experiencing a wide variety of variables, being of utmost importance, is negated with a negative consequence in creativity. It is also a restrictive pattern that teaches the person to close his eyes to so many things in his environment.

As a correlate of emotional expression are the cultural sanctions against diversion from strict sex roles. In this limitation there is that forbidding of experience, opportunity for originality, and nonconformity.

Instead individuals must blindly concede to social rules and act in very specified manners or suffer the consequences. The culture has established a rigid pattern for males and females that is so rigid it excludes either sex from experiencing many items from each others' roles. It makes the person have a sense of incompleteness with many talents left undiscovered and unpolished because of social restriction. There is much limitation and restriction of freedom in such delineation.

A further glance into inhibitory factors is done by Torrance (1962). He finds that success orientation so that children stay within prescribed boundaries so as not to fail; conformity to peer pressure; reluctance to ask questions, explore, and use their imagination because teachers discourage this; over concern with sex roles; and the dichotomy of work versus play are negative factors in regard to creativity. There is restriction, lack of self confidence to explore the environment, dependency, and conformity. All of these have been found to exert their own particular influence in detracting from some aspect of creativity so that it is not fully expressed.

Another cultural block to creativity is that of too much acculturation. It inhibits originality and diversity (Krippner 1967). When a culture begins to accumulate and take the characteristics of another culture as if they were the culture's own, problems arise. The culture that soaks in these characteristics does so without question because the characteristics are of the dominant cultures. To gain status,

changes are made to appear like the prominent culture for reasons of position. The conformity involved as well as the concern with social position are all at disagreement with creativity. To stifle the minds of its members by taking up too many characteristics of another culture is to wreak havoc upon individual thinking. Independence is lost and conformity prevails.

The emphasis of practicality in the American culture has caused detrimental effects on creativity. The limiting of ideas as useless because they are of no practical value is a waste. Practicing for usefulness also stifles the imagination and leads to very mundane, concrete solutions. The situation of practical solutions involves no encouragement nor support for that which shows creativity but no practical use. Creativity is thrown to the side in order that things be done practically and efficiently.

In accord with practicality comes the idea that everything one does must be successful (Krippner 1967). Hesitation is resultant as there is fear of ridicule or censure. Implanted in the mind is the idea that all thought must be conservative and safe. There is no room for newness for it is untried and may be ridiculed. A cautious, negative risk-taking attitude may cause the person to forego opportunities that afford creative possibilities (Alamshah 1972). This cautious attitude is learned through constant socialization toward such a stance by those around the individual. Stress on perfection again causes children to

take criticism of creative efforts as attacks upon them and their shortcomings (Krippner 1967). The child will be made to feel negatively about himself, thereby lessening his security and self confidence both of which are necessary for creative exploration.

Very close to the idea of success and perfection is the idea of everybody having to like the individual, which only adds to conformity and the blockage of creativity (Krippner 1967). The only way a child can have everyone like him is by conforming to everyone's expectations so that no disagreements and causes for dislike may arise. This causes strangulation of independence and originality. By having such rigid and binding rules the chances have been substantially lowered for the emergence of creativity.

CHAPTER 4

SEX AS A VARIABLE

The differential treatment of the sexes has been separated as a factor that affects the manifestation of creativity. The explanations that have been given are based upon cultural input on the developing child. Sex differences in creative functioning are determined primarily by differential treatment of the sexes by significant others, teachers, strangers, etc., and the identification of children with the sex roles of their culture (Torrance and Aliotti 1969). The culture outlines behaviors appropriate to that sex and indirectly demands that its members adhere to the rules set down. These norms may be restrictive in limiting the number of behaviors individuals may perform and they may also encourage independent expression in culturally approved areas appropriate to that sex. Males are still, despite the current movement towards liberation of sex roles, encouraged to be independent and aggressive in the environment. Females, with a minority of exceptions, are subjected to the restriction of dependency.

That members of each sex strictly adhere to social norms does not always help in creative endeavors. Males who attain a high level of masculinity repress feminine elements of personality which all men are

capable of expressing such as warmth, tenderness, emotional expressivity, aesthetic appreciation, and vulnerability (Miller et al. 1969). These repressive efforts lead to rigidity and narrowness in thought and in the approach of new experiences. Males who are so restrictive are automatically denying alternatives such as emotional expression and experiencing, experimenting with aesthetic aspects, and lucrative activities previously restricted to females only. Boys who showed mixed sex-role patterns (high orientation for masculinity and low preference for masculinity or low orientation and high preference) were much higher in total creativity measures than boys who had consistent sex-role patterns (Miller et al. 1969). Mixed sex-role patterns allowed these boys to have components of both sex roles in their personality. There is an increase in experiential background from which to draw, and an openness and independence from social restriction that stimulates original thinking patterns.

It is these boys with discrepant sex-role patterns who have a wider range of experiences at their disposal because they are able to delve into more areas for experiences. Boys who have consistent sex-role patterns narrow their experiential potential as many endeavors are automatically labelled as unsuitable for participation. These children conform to the strictness of norms for fear of social reprimanding. Their independence has not been developed to the extent that it could tolerate

negative responses without succumbing to demands that may have not been at all considered to be of importance by the individual.

A study of American and Indian children is an example of the cultural effects on the sex of the child and subsequent creativity. Sex differences were greater than the cross-cultural differences of the two samples (Straus and Straus 1968). Males were more creative than females. However, American girls were more creative than Indian girls due to the greater freedom and individuality given American females. Males were higher than females on creativity tests due to the cultural view of allowing males more leeway and freedom to roam their environment. Not only were the results determined to be caused by the degrees of freedom given to children, but also the tolerance of nonconformity was considered significant. Both American and Indian females were at a disadvantage as conformity was a social imposition on the females and this was especially true in the Indian culture (Straus and Straus 1968).

Motivation in addition to independence and nonconformity has also been considered. The factor of sex interacting with motivation has been found to be significantly correlated with creativity (Laughlin, Doherty and Dunn 1968). Males had more incidental concept formation than females which is a thought process closely related to creativity. Males are more motivated than females to find ideas that are possible alternatives.

Males have been found to perform better on ego-involvement while females have been found to perform better on task-involvement (Laughlin et al. 1968). Females were under a higher habitual motivational level as a personality state. The male is pushed towards getting things accomplished, thereby increasing his motivational state. Motivation may be a determining factor in his drive for creative endeavor.

Levels at which females perform better are areas in which they are encouraged to do well and in which males are restricted. Girls perform at a consistently higher level than boys on all verbal tasks as measured by the Torrance Tests of Creative Thinking Ability (Torrance and Aliotti 1969). There is greater emphasis in the United States on the verbal development of girls. The female is superior on performance in verbal tasks measuring fluency. The female has learned not to restrict herself verbally and instead has developed a fluency that is conducive to creative growth. Women are also expected to make things fancy and work out the details of plans (Alamshah 1972). The female has the advantage of being allowed a freer sense of expression that the male is denied, hence, a difference on creativity measures.

Differences on creativity have been seen to be culturally based due to differential emphasis on areas of communication and development. Each sex has its own advantages and disadvantages for the onset of creativity. Those individuals who cross the barriers, however, are found to be the ones in the best position for creative

elaboration as their experiential range is increased and independence is more established.

CHAPTER 5

EDUCATIONAL INPUT

The education that a child receives has a great deal to do with the development of style in thought processes. The teachers and the educational curriculum are both important factors to be considered when discussing the creative individual.

The Teacher

A teacher who allows students to learn creatively rather than by authority stimulates more learning of a higher quality (Taylor 1964). The teacher must learn to respect questions and ideas so as to further encourage thinking and questioning for learning and growth in creative areas. Opportunities must be made by the teacher for the expression of the student as an independent individual. Teachers should ask provocative questions as well as learn to value ideas and questions. The teacher must also elaborate on the idea to make a difference (Mooney and Razik 1967). The development of ideas is an essential step for establishing patterns of divergent thought.

In order to nurture creativity teachers must modify their concepts of classroom success to permit children to succeed first in ways that are possible to them and use the behavior to motivate students

to higher levels of creative thinking (Mooney and Razik 1967). The holding of the idea that success is measured by one set of standards for all is too restricted. Instead, the teacher must free himself and his pupils to search for meaningful alternatives in which individual achievement may occur. Hence, independent work judged by individual standards is of prime concern.

Not only must individualized teaching expectations be made, but an increase in the learner's feeling of self-worth and self-esteem must be established (Goodale 1970). The increased self confidence will foster security which is conducive to the individual's search for questions and answers. This calls for a change in the teacher as an authority figure to a helping person. A change in the classroom from competition to mutual support is also called for. This will free the learner from fear of failure. The teacher must help each student to develop self confidence so that he may change his view of constricting values and realize new potentials.

The teacher stands in an advantageous position for encouraging creativity, curiosity, and self-reliance as he is a giver of rewards and punishments for social and intellectual skills (Goodale 1970). He must encourage independent thinking and loosen unnecessary and confining restrictions. The teacher is in the position to do so because of the nature of the classroom. He directs the class in their method of study

and socialization so that he may use principles that have been known to foster creativity. The relaxing of the classroom atmosphere to make learning an enjoyable act rather than an arduous task may be done by the resourceful teacher. The most successful approaches to teaching children to think creatively are those that involve both cognitive and affective functioning; provide adequate structure and motivation; and give opportunities for involvement, practice, and interaction with teachers and other children (Torrance 1972).

The successful teaching model stresses the emotional aspect of the student as well. To more fully engage the individual in engrossing himself in study necessitates the child's total involvement as well as understanding his capabilities. The child has an expanded view of his surroundings so that he can better grasp the external and internal characteristics of his environment. The awareness will allow him to develop a more diverse plan of action when he comes across a problem.

Motivation to solve those problems is a prerequisite for solution. The student must be engendered to feel a genuine need to come up with the solution. The problem needs to become a vital and stimulating aspect in his environment. Without a framework that does not allow for such interaction of need and stimuli the whole process is significantly hampered and confined. The two must coexist if they are to be used by the students.

These skills will need the opportunities of practice, involvement, and interaction if they are to be successful. The practice will allow for the actual working out of details and plans. Opportunity for involvement will give the child the chance to become familiar with problem situations as well as work on them to the degree that they find satisfying. This calls for an interaction with teachers for help and support. The help may come in the form of giving opportunities. The teacher's compliments and rewards will come as support for his projects. Interaction with the other children will also occur in that they are viable stimuli and supports that are easily accessible. The practice, involvement, and interaction then combine to be favorable aspects of the teaching environment.

The creative development of the young is found in the content itself. Teachers need to reorganize their methods to realize themselves and their world as creative (Taylor and Williams 1966). Projects are needed which deal with content and with the substance of reality. Teaching must be realized as a discipline based upon the operation of a creative communication system. The teacher needs to realize himself as a creative communicator with his students.

A possible method of increasing teacher expertise in creative development is suggesting possible alternatives for a common object by having the teacher ask members of the class to propose many different uses for it (Whiting 1958). Alternatives and variations must be the only

ones acceptable. The teacher must stimulate the minds of the students to diversify their thinking. The stress is to be on what can be done and not on a broad category into very finite boxes. Thinking along these lines must be expansive rather than restrictive.

Flexibility in thinking is often aided by being aware of the aspects of creativity (Whiting 1958). Having a mind open to new ideas and being reluctant to judge new ideas prematurely or too harshly can help. If the teacher does not understand the importance of openness to new ideas then how can he foster creativity? To develop a process one must understand and know about it. Otherwise there will be confusion and a loss of any productive sense of direction. The teacher must prepare himself to deal with negative and positive classroom situations that may arise.

As a teacher encourages a student to diverge he moves from simply transmitting knowledge and enters a complexity of learning experiences that the teacher is unfamiliar with. He must cope with the idea of no one concrete answer for any problem (Larson 1967). The teacher then is faced with unpleasant psychological forces. The teacher must develop a sense of strength within himself to be secure enough to be able to search with no particularly clear guidelines mapping out his path. He must be aware of what is happening in the process of creative teaching in order to better prepare himself to deal with the unfamiliar.

This will prevent developing a fear of failure and instead thirst for exploration will be installed.

The teacher must then perform two tasks. First he must select substantive material, and second he must be aware of the process of thinking diversely (Larson 1967). This is to be made explicit to the students. The material must be of a valid nature, otherwise superficial and inconsequential learning will take place. Students need the experience of familiarizing themselves thoroughly with their material. By careful examination, understanding and comprehension will be established in the minds of the students. In addition, students will be allowed much freedom and independence of thought. All of these characteristics are crucial to the development of creativity (Larson 1967). The intellectual congruence between student and teacher allows for deeper contact which establishes a mutually satisfying relationship. This relationship seems to permit creativity.

Educational Curriculum

The actual training one receives in formal education has been both lambasted and praised. Its value has been called of vital importance as well as useless impracticality. In regard to creativity, the present educational programs have been found to be unstimulating to the creative individual (Richmond, Phillips and Blanton 1972). The emphasis in education has been on imparting information currently regarded as fact

without a sufficient opportunity to expand meaningful modes of self expression. However, attempts have been made to salvage the educational system and conditions have been separated that will allow for such independent self expression.

One condition is that new ideas be encouraged and permitted a fair hearing (Whiting 1958). The characteristics of a flexible atmosphere include freedom of expression or the ability to express diverse opinions without fear of censure. Another qualification of the flexible atmosphere is good communication for a smooth flow of ideas. Finally there is the existence of mutual respect and encouragement. Such an environment gives the student the opportunity to arrive at ideas and develop them in an independent manner, to express these ideas, and the support for them because ideas are worthy of recognition and attention. This type of environment is seen as conducive to creativity.

Removal of restrictive thought patterns is essential for exploration of alternatives and creative thought (Taylor 1964). Students must also learn to test these ideas to see whether they have something better than they otherwise would have had. What this type of encouragement does is to remove those barriers and limitations that otherwise block the total expression of the individual. The suggestion that a person has the reputation of an original thinker creates a mental set that upgrades his problem solving performance and, thus, helps to abolish restrictions on thinking (Colgrove 1968).

To increase creative problem solving performance, an individual must be taught to discover problems in a situation (Taylor 1964). This is done by having the student compile long lists of possibilities while deferring judgment. Then, once the list is finished, he must go back and be judicial and critical in making a selection of the most crucial problem. The student proceeds with this process in idea production, synthesis, criteria listing, evaluation, and the development of a plan of action. The critical point here is the deferring of judgment and maintaining of many options until the best one is selected.

It has been suggested by Torrance (1962) that students are capable of accumulating patterns of creativity as they grow older. The child from age eight to ten should be given every opportunity to express his originality and ingenuity. Adults should create occasions for him to use his skills and show how his talents are useful. He needs to use what he learns but will need support when he fails. It is suggested that strengths be emphasized and that children be helped to realize that they cannot do good in everything that they attempt.

From the ages of ten to twelve, opportunities to explore, to build, to make, and to read, as well as to communicate to others about his experiences, should be provided. It is a time of exploration of talents. The child should persist at difficult tasks and be challenged to learn things because they are difficult. As the child matures, he keeps adding patterns that are characteristic of creativity. He does so when

he is ready to pick them up. Finally, if the progression has been continued, creativity will be enhanced in that individual.

At the ages of twelve to fourteen, exciting but difficult projects are needed. It is essential that the child be given experience in making decisions and carrying them out. He should be given some kind of skills for influencing the group and raising the level of the group. They can be given practice in sensing the needs of others and in maintaining the respect of friends by using creative solutions.

During the interval between fourteen years of age and sixteen, the child must be helped to think about his abilities and how he can use them to achieve success in his career. It is a time for learning the skills of creative problem solving.

At the stage between sixteen and eighteen, adults need to make themselves available and provide provocative food for thought. Aesthetic interests and skills should be encouraged at this phase. The concept that emotional energy should be used creatively should be introduced and tested at this time for further clarification.

To tie these stages into a curriculum would be beneficial as well as challenging to the student. In addition to familiarizing themselves with these phases, teachers should assign take-home assignments. These are an excellent opportunity for the student to offer his own ideas and evaluations and to be rewarded for them (Goodale 1970). The student must not be penalized for being different or exhibiting his

independence and curiosity. Instead, the classroom situation should be reshaped so that materials and facilities are arranged in ways that make it convenient for students to move from task to task rather than in ways which give the teacher complete and unyielding control. Hence, the underlying factor is independence.

Pupils can be stimulated by defining problems, recalling related ideas, by analyzing the situation, and making hypotheses (Patrick 1955). The evaluation of each suggestion, the systematic rejection and selection of solutions, and the verification of these solutions is impetus for diversified thought. Organizing material to aid thinking by taking stock from time to time and expressing tentative conclusions teaches the student to defer judgment and keep options open. This further stimulates the search for the solution as closure has not been enacted.

A sense of freedom from time restrictions is of primary importance for the development of creative thought (Patrick 1955). It is a move towards independence of social restriction and a stimulating factor as well. The removal of pressure to produce gives the student a sense of freedom to proceed at an individualistic pace. Such a pace is conducive to work being done that is being genuinely enjoyed. Greater involvement will ensue.

Involvement with a problem that is of sufficient difficulty for the thinker is a fundamental condition for the creative process. The difficulty of the problem forces him to look at it from all angles. This

extended search for solutions takes the child into realms which may further stimulate more branching so that his thought range will be broadened. Broadening of the thought range is an increased chance for discovery of a novel mode of solution. New combinations may also be found with the increased amount of information at hand. What the involvement with the difficult problem has produced is a situation rich with possibilities. The creative thinker will be able to keep an openness of mind in regard to solutions so that vast quantities of additional information may be discovered which can be used to enhance the validity of the answer found.

In addition to the difficulty of the problem, the child must be able to see the problem otherwise any answer will do (Seidel 1966). If the student fails to see the problem, answers given to problems will become separated abstractly from the whole reason for asking the questions in the first place. Thus, when education is a supply of answers genuine learning is gone and opportunity for development of creative thought is lost. Instead, a statement of curriculum-building should be presented as a process of planning experiences for students which lead them into a realization of and involvement in creation underway in themselves and in the world (Taylor and Williams 1966). The planning of experiences could also be made to take into consideration the tendency of the creative to work alone so that students should also be given the opportunity for independent work as a means of development (Bliss 1970).

In planning for idea development, the aspect of group discussion should be included as well. Insights are often triggered by discussion. Group discussions of the brainstorming type are helpful in the right atmosphere (Haefele 1962). In this situation much input from other individuals is invaluable in the stimulation for solution. Thought will be stimulated by thought so that the discussion may well take a widely diversified route in its search for the solution. The openness of the situation must be maintained so as to engender thought. Idea fluency and facility at combination is greatly helped by the constant use of the individual and group operational techniques (Whiting 1958). Facilitation at combination can be developed by practicing the combining of various related or unrelated ideas. Hence, the consideration is warranted that the group discussion method is a situation which accounts for much idea spawning.

If intuitive powers are to be strengthened as well, quite different exercises will be required in education. Transferring of training from one subject to another; searching for common principles in terms of which facts from different fields of knowledge can be related; developing a feeling for similies, analogies, and metaphors; seeking the symbolic equivalent of experience in the widest number of sensory and imaginary modalities; and engaging in imaginative play are all examples of such exercises (Rolansky 1970). The established methods of teaching

currently employed harbor a great deal of affection for convergent thought. With the installation of such exercises the convergent could be joined by the process of creativity.

Colleges can nurture perceptiveness and curiosity by providing a wide variety of courses of study. An openness of mind and, thus, the creative potential in students, can be fostered by broadening of their experience in fields beyond their specialty (Rolansky 1970). Problem sensitivity and perception can be best developed by a conscious effort to be more observant of the environment and by continual questioning of things as they now exist. A conscious effort to impose upon existing techniques or ideas can be made to question the validity of the acts in question (Whiting 1958). What is seen is the need to diversify as well as to observe carefully and question for the development of novel thoughts and solutions.

This can be supplemented by the ability to group items of symbolic information in different ways. Combinations such as letters, numbers, and coding symbols may be used. The teacher may use new vocabulary words, or sets of numbers being studied in the new math series, or telegraph or other codings , if the students are studying electricity or science. Classifications can be taught using regular course of study subject matter as components (Meeker 1969). All that is entailed is elaboration of comparison between unrelated areas.

To expand the ability to elaborate on figural information, experiences must be provided for the students to allow them to make implied additions to a given stimulus object. It is probably easier to lead students to the understanding of inferred meanings by beginning with verbal elaborations. Open-endedness of divergent production of figural classification tasks allows for individual differences in perception and may be used by the elementary school teacher. The primary goal is to classify given stimuli; the divergency lies either in the ambiguity of the stimuli, the broadness of the possibilities, or the flexibility of the scoring (Meeker 1969). What is significant is the allowing for the dispersion of thought, which is what is needed in the educational system.

CHAPTER 6

SUMMARY

The family is one of the earliest factors to consider in the determination of creativity. It is the basis from which the child may potentially grow into creativity. Families of creative children do not bind their children into dependence, but rather allow freedom. The relationships formed are not, however, cold and rejecting. Instead, increased stimulation occurs when the child is close to the parent of the opposite sex. Siblings give opportunities for wide experiences through their varying personalities.

The life style of the families of creative people tends to be more liberal and freer from restrictions. Much time is devoted to intellectual and aesthetic pursuits. There is also an openness to and awareness of stimulation.

Creative children are expected to perform the right behavior, but force is not used to produce its appearance. Children are given the freedom to choose and question the validity of appropriate behaviors. These children are also given the opportunity to see their parents acting out nonconforming behaviors as well as condoning self expression.

This freedom of self expression allows more environmental and emotional exploration.

The parents are educational to their children as well as stimulating. Curiosity can be stimulated by reinforcing new things that are positive. Punishment is not used in reinforcement as coercion by force does not affect the creative person to change his behavior.

Parental characteristics tend to be less stereotypically sex typed and parents tend not to foster stereotyped sex roles in their children. The child is allowed more of an experiential range because of this.

There is a lack of anxiety on the parents' part about their children's skills and abilities. Children are allowed to learn at their own pace and congruent with their interests.

The father of creative children is decisively the strongest influence in providing identification, stimulation, and prodding the child's talents. His openness to experience prods the child to get involved with the father in growth stimulating activities.

Fathers tended to have autonomy in their jobs and transmitted their enjoyment of independence to their children. Children thus emulated such independent seeking behaviors furthering their own creative growth.

The characteristics of mothers show wider variation. They usually did not come from middle class families. Also, they had an

aversion to rigid classifications. She tended to be open and tolerant. Her children were also more attached to her than children of low creativity are to their mothers.

These mothers were also more nonconforming and less concerned with traditional societal needs. This nonconforming attitude helps the child develop independence.

However, mothers of creative children tended to be less accepting of their maternal role. But they tended to be more accepting of their children than other mothers.

The cultural atmosphere is conducive to creativity if it permits situations of originality, independence, and nonconformity. Self expression and uniqueness must be culturally sanctioned. The freedom to work in whatever areas are of interest is also conducive to creativity. Socialization of such traits through subtle inference and psychological and sociological processes will foster creative growth.

The need to love, to understand, and for beauty are steps toward creativity. The culture must sanction experimentation to be a positive factor. A culture fosters creativity to the extent that it provides the chance for experience in its many facets and communication of feelings or ideas through its media.

But some form of organization is necessary for creativity. It is a product of necessities and the way in which individuals cope with these necessities. The elements of creation must also be in the culture.

The culture must not set up blocks to hinder the creative interaction of factors.

Social status helps determine development of creativity. Lower class status tends to be more conforming to upper class restrictions. The lower classes tend to foster the importance of concrete elements of survival rather than abstract development. Less parental attention is also characteristic of lower class homes. Punishment and coercion to conform are enforced by lower class homes. They are also not stimulating.

The stress in the upper classes on education produces brighter students who are more confident and, thereby, more willing to explore their environments. Middle and upper classes are more tolerant of sex-role discrepancies and stress more independence. Opportunities and encouragement of varied play is typical of these types of homes. There is a great deal of support for their children also.

However, middle and upper classes can inhibit creativity. The conformity imposed by middle class norms and the importance of social position are restrictive factors.

The culture can block creativity by sterilizing the environment and insulating children from differences. Forbidding of emotional expression, intolerance for ambiguity, and intolerance of people who go against accepted norms add to restriction of creativity. The sanctioning of strict adherence to sex roles is another cultural block. Other inhibitory

factors are success orientation; conformity to peer pressure; reluctance to ask questions, explore and use the imagination; the dichotomy of work versus play; too much acculturization; practicality; and cautiousness.

Differential treatment of the sexes is a factor that influences creativity. Teachers, parents, peers, and strangers all have their input on the developing child. Repression of experiences, due to strict adherence to sex roles, leads to narrowness in thought and approach to new experiences. Discrepancy in sex roles allows for a greater experiential range as there is an openness to experiences traditionally reserved for the opposite sex.

Certain aspects of each sex role can affect creativity one way or another. Males are more motivated to find alternatives which increase the chance of creative combinations. Females are more habitual in their motivational states.

Levels at which females perform better than males are areas in which they are encouraged to do well and which are prohibited to males. Verbal tasks measuring fluency are an example. Greater freedom in emotional expression is another favorable point.

The teacher who respects questions and ideas promotes learning and growth in creative areas. If the teacher makes opportunities for individual expression he is furthering creativity. Teachers must also modify their idea of classroom success to permit children to succeed in

ways that are possible to them and use the behavior to motivate students to higher levels of creative thinking. Independent work must be judged by individual standards.

An increase in the learner's feelings of self-worth and self-esteem foster security which enables individuals to seek questions and answers. The teacher must consequently be a helping person rather than an authority figure. Mutual support in the classroom is also called for. The teacher must encourage thinking and loosen unnecessary restrictions. Teaching approaches that involve cognitive and affective functioning; provide adequate structure and motivation; and give opportunities for involvement, practice, and interaction with teachers and peers are most successful in stimulating creativity.

Teachers need to reorganize their methods to realize themselves and their worlds as creative. Teachers must stimulate their students to diversify their thinking. Being open to new ideas and reluctant to judge new ideas prematurely helps. To develop creativity the teacher must understand and know about the process.

The teacher must also deal with the unpleasantness of dealing with the unfamiliar and new situations that will arise in creative thinking. He needs to choose substantive material and be aware of the process of diverse thinking.

The educational curriculum has been called unstimulating to creative individuals. However, conditions have been set up for

individual expression as an attempt to salvage the educational system. New ideas are encouraged and permitted a fair hearing. Good communication needs to be installed.

The child from age eight to ten should be given every opportunity to express his originality and ingenuity. From the ages of ten to twelve there should be opportunities to explore, to build, to make, to read, as well as to communicate to others about his experiences. As the child accomplishes the different tasks capable at different levels, so is he growing in creativity.

At the ages of twelve to fourteen, exciting but difficult projects are needed. Between fourteen and sixteen the child must be helped to think about his abilities and how he can use them to achieve success in his career. In the interval between sixteen and eighteen, adults need to provide provocative food for thought. Aesthetic interests should be encouraged.

These levels should be kept in mind when developing a curriculum. Take-home assignments are also an excellent mode for self expression if given individual standards and goals.

Pupils can be stimulated by defining problems, recalling related ideas, analyzing situations, and making hypotheses. Involvement with a problem of sufficient difficulty for the thinker is a fundamental condition for creativity. The student must also see the problem before he attempts to answer it.

Group discussion is productive in idea development. Insights and stimulation result from the input of the group.

Another way to stimulate idea fluency is to encourage finding similarities in different principles. Seeking the symbolic equivalent of experience in the widest number of sensory and imaginary modalities also helps. Imaginative play is another example of what should be done.

In colleges, encouraging students to diversify themselves and broaden their experiences in fields other than their specialties can nurture perceptiveness and curiosity.

Elaboration and diversification are the key elements to the dispersion of thought. Ambiguity of stimuli, broadness of possibilities, and flexibility of scoring all produce divergency. This is what is significant and needed in the educational system to foster creativity.

REFERENCES

Alamshah, William H. The Conditions for Creativity. Journal of Creative Behavior, 1967, 1 (3), 305-313.

_____. Blockages to Creativity. The Journal of Creative Behavior, 1972, 6 (2), 105-113.

Anastasi, Anne and Shaefer, Charles E. Biographical Correlates of Artistic and Literary Creativity in Adolescent Girls. Journal of Applied Psychology, 1969, 53 (4), 267-273.

Araseth, Josephine D. Creativity and Related Processes in the Young Child: A Review of the Literature. The Journal of Genetic Psychology, 1968, 112, 77-108.

Bliss, William D. Birth Order of Creative Writers. Journal of Individual Psychology, 1970, 26 (2), 200-202.

Brown, Janet L. Precursors of Intelligence and Creativity: A Longitudinal Study of One Child's Development. Merrill-Palmer Quarterly, 1970, 16 (1), 117-137.

Cashdan, Sheldon. Social Participation and Subcultural Influences in the Study of Adolescent Creativity. Adolescence, 1971, 6 (21), 39-52.

Colgrove, Melba A. Stimulating Creative Problem Solving Innovative Set. Psychological Reports, 1968, 22 (3 pt. 2), 1205-1211.

Datta, Lois-Ellin. Birth Order and Potential Scientific Creativity. Sociometry, 1968, 31 (1), 76-88.

Dewing, K. Some Correlates of Creativity Test Performance in Seventh Grade Children. Australian Journal of Psychology, 1970, 22 (3), 269-276.

Dreyer, Albert S. and Wells, Mary Beth. Parental Values, Parental Control, and Creativity in Young Children. Journal of Marriage and the Family. 1966, 28 (1), 83-89.

Goodale, Robert A. Methods for Encouraging Creativity in the Classroom. Journal of Creative Behavior, 1970, 4 (2), 91-102.

Gowan, John Curtis. Why Some Gifted Children Become Creative. Gifted Child Quarterly, 1971, 15 (1), 13-18.

Greenberg, Judith W.; Shore, Marietta S. and Davidson, Helen H. Caution and Creativity as Correlates of Achievement in Disparate Social-Racial Groups. Journal of Negro Education, 1972, 41 (4), 377-382.

Haefele, John W. The Creative Climate. In Creativity and Innovation, New York: Rheinhold Publishing Corporation, 1962.

Janssen, Calvin. Comparative Creativity Scores of Lower Socioeconomic Dropouts and Non-dropouts. Psychology in the Schools, 1968, 5 (2), 183-184.

Krippner, Stanley. The Ten Commandments that Block Creativity. Gifted Child Quarterly, 1967, 11 (3), 144-156.

Larson, Emilie G. Divergence: The Process of Extending the Boundaries of Awareness. Journal of Education, 1967, 149 (3), 24-45.

Laughlin, Patrick R.; Doherty, Mary A. and Dunn, Ralph F. Intentional and Incidental Concept Formation as a Function of Motivation, Creativity, Intelligence, and Sex. Journal of Personality and Social Psychology, 1968, 8 (4), 401-409.

Lichtenwalner, Joanne S. and Maxwell, Joseph W. The Relationship of Birth Order and Socioeconomic Status to the Creativity of Pre-School Children. Child Development, 1969, 40 (4), 1241-1247.

Markowitz, Irving. Origins of Creativity. Psychiatric Quarterly, 1972, 46 (2), 199-207.

Mednick, Martha T. and Mednick, Sarnoff A. Research in Personality, New York: Holt, Reinhart and Winston, Inc., 1963.

Meeker, Mary Nacol. Divergent-Production Factors. In The Structure of Intellect: Its Interpretation and Uses. Columbus: Charles E. Merrill Publishing Company, 1969.

Miller, Henry B.; Singer, David L. and Fullerton, Maryellen. Sex-role Development and Creative Potential in Kindergarten-age Boys. Developmental Psychology, 1969, 1 (3), 291-296.

Mooney, Ross L. and Razik, Taher A., (Ed.) Explorations in Creativity. New York: Harper & Row Publishers, 1967.

Patrick, Catharine. Favorable Conditions for Creative Thought. In What is Creative Thinking? New York: Philosophical Library, 1955.

Ribot, Thomas. Essay on the Creative Imagination. Translated by Albert H. N. Baron. London: Open Court Publishing Co., 1906.

Richmond, Bert O.; Phillips, Victor K. and Blanton, William. Creative Growth and Cognitively Structured Stimulation in Education. The Journal of Psychology, 1972, 81 (2), 321-328.

Rolansky, John D., Ed. Creativity. London: North-Holland Publishing Company, 1970.

Rosner, Stanley and Lawrence, E. Abt., Ed. The Creative Experience. New York: Grossman Publishers, 1970.

Seidel, George J. The Climate of Creativity. In The Crisis of Creativity. Notre-Dame London: University of Notre-Dame Press, 1966.

Straus, Jaqueline H. and Straus, Murray A. Family Roles and Sex Differences in Creativity of Children in Bombay and Minneapolis. Journal of Marriage and the Family, 1968, 30 (1), 46-53.

Taylor, Calvin W., Ed. Widening Horizons in Creativity. New York: John Wiley and Sons, Inc., 1964.

Taylor, Calvin W. and Williams, Frank E., Ed. Instructional Media and Creativity. New York: John Wiley and Sons, Inc., 1966.

Torrance, E. Paul. Creative Development. In Guiding Creative Talent. Englewood Cliffs, N. J.: Prentice Hall, Inc., 1962.

_____. Can We Teach Children to Think Creatively? The Journal of Creative Behavior, 1972, 6 (2), 114-143.

Torrance, E. Paul and Aliotti, Nicholas C. Sex Differences in Levels of Performance and Test-Retest Reliability on the Torrance Tests of Creative Thinking Ability. Journal of Creative Behavior, 1969, 3 (1), 52-57.

Whiting, Charles S. Creative Thinking. New York: Rheinhold Publishing Corporation, 1958.