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An investigation of the relationship between early childhood education teachers' attitude on creativity and the instructional behavior in the classroom.

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AN INVESTIGATION OF THE RELATIONSHIP BETWEEN EARLY CHILDHOOD EDUCATION TEACHERS' ATTITUDE ON CREATIVITY AND THE INSTRUCTIONAL BEHAVIOR IN THE CLASSROOM

A Dissertation Presented

By

NAZ OBAID MOHAMED

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Education

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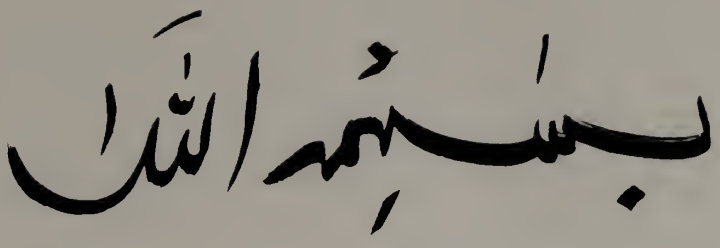

Islamic Goal of Education:

"To develop human personality on the path of creativity for service to mankind."

Sheikh Ahmed

DEDICATED

in loving memory of my grandfather KHAN BAHADUR MOHAMED HIDAYETULLA of Poona, India (1888-1953); who devoted his entire energy and selflessly dedicated the best years of his adult life in the service of education of the youth.

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ABSTRACT

An Investigation of the Relationship between Early Childhood Education Teachers' Attitude on Creativity and the Instructional Behaviors in the Classroom.

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The purpose of this study was to compare teachers' expressed attitudes towards creativity with their actual instructional behaviors in the classroom. Their expressed attitudes were assessed by an "Attitude towards Creativity Test" and their instructional behaviors were assessed by a "Behavior Observation Checklist".

The data gathered through the Test and the Checklist were analysed in order to establish whether or not there was a relationship between teachers' expressed attitudes towards creativity and their instructional behaviors. Demographic information was also gathered to determine if they related to teachers' attitude and instructional behaviors.

Thirty teachers in nine preschools or day care centers participated in this study. The teachers were observed twice for a 45 - minute session each. The sessions were approximately two weeks apart. Upon completion of the observation sessions, the Test and the Personal Data Form were distributed to each teacher and later collected by the researcher.

Two statistical analyses were performed on the data. Pearson's product-moment correlation coefficient established the relationship between attitude and instructional behaviors. Analysis of Variance established the relationship between the demographic variables and teachers' attitude and instructional behaviors. The first analysis yielded a negative relationship between attitude and behavior, and the second analysis yielded no relationship between demographic variables, attitude and instructional behaviors.

The overall findings of this study were counter to what was originally anticipated by the researcher. It was found that, in this sample, teachers' with positve attitude scores, tended not to exhibit the instructional behaviors that are considered to foster creative expression in young children. Besides this negative correlation between teachers' attitude and instructional behaviors, their age,

sex, educational background, and teaching experience were found to have no influence on how they felt about creativity or on instructional behaviors they exhibited in the classroom. Between the five background variables, only age and sex appeared to be related to teaching experience, but not to their attitude or instructional behaviors.

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INTRODUCTION

Statement of the Problem

Benjamin Bloom (1956) projected that by the end of the 20th century and perhaps even earlier, humanity will find itself facing a rapidly changing and unpredictable future. Torrance (1967) cautioned that "things are changing so rapidly that we can no longer survive, if we insist on thinking and living in static terms. . . . We cannot afford to return to the old ways, . . . we must accept the creative challenge" (p.330). It is virtually impossible to forsee or to envision the particular problems which will be paramount in the next few decades. One thing appears certain: the existing ways of viewing life and solving problems will not be sufficient for the future (Bloom, 1956; Gowen, Demos & Torrance, 1967). It is imperative, therefore, that individuals be prepared to accept the creative challenge.

Educators like Parnes (1967) have argued that an objective of educational institutions should be helping each student develop his/her mind to its fullest potential, educating students to survive effectively in a constantly changing world, and preparing them to

confront the changes that they will inevitably face.

Since schools have the power to influence the learner's thinking processes, it seems logical that the educational system take the responsibility of preparing individuals to solve problems even less predictable than usual. More emphasis has to be given to developing alternative abilities and skills that would be transferable from one situation to another as the need for it arises (Rogers, 1962). Only by developing interdisciplinary thinking and new learning methods can future generations be equipped to solve the upcoming and unforseen problems in innovative and creative ways. Indeed, in view of our unpredictable future, education has an added obligation to provide its own reason for being, its own self-stimulation which in turn would evoke an intense desire to learn in students.

Research in developmental psychology and early childhood education has shown that the preschool years are very important and influential because what children absorb and acquire in this phase is carried over into their later years. Infancy and adolescence are very critical learning stages, and the greatest growth spurts occur at these times. What children learn and the way they are taught now has a powerful influence in their later years. Now is the time to stimulate diversity in children's thinking and learning processes, in order to encourage them to express their creative potential to the fullest (Hawkins, 1965; Reynolds & Kaufman, 1978).

McVicker (1972) quotes Piaget as saying that "they [children] must be able to try things to see what happens, manipulate objects, pose questions, . . . seek answers" (p.44), and then goes on to say that this freedom is the key to unlocking the potential of human creativity. By allowing children to encounter the world through exploration, experimentation, testing, sensing, and generalizing on their own, a foundation is being laid for their creativity to evolve spontaneously and joyfully throughout their lives (Francks, 1979). They will learn to act independently and this independent attitude will carry into adulthood (Barron, 1963; MacKinnon, 1962; Rejskind, 1982). Therefore, self-discovery and independence in children should become the focus of education, especially Early Childhood Education.

It is believed that all human beings are innately creative, but some are able to express their creativity while others are not. For those who are not able to, the reason may either be that they lack the opportunity or that their environment does not facilitate creative growth (Gowen, Demos & Torrance, 1967; Shallcross, 1981). Before any effort can be made to provide the appropriate opportunity and environment for creative growth, and before any change can be implemented in the educational system, the traditional notion of creativity as being limited to art, music, literature, and dance has to be broken. It must be understood that creativity belongs to all fields, that it is a comprehensive, all-encompassing mental process with a life-long span (Jones, 1972). The creative qualities that

would make one a good painter or a writer will make another an equally creative physicist or biologist (Jones, 1972; Parnes, 1967).

Besides being aware of this range in the nature of creativity, educators, especially teachers, need to understand the creative process and thus liberate their own creativity (Davis, 1983). Mere acknowledgement of the importance of letting themselves and the children express their creativity is not enough. Their instructional behaviors in the classroom has to reflect their attitude towards creativity. In other words, they need to apply their understanding of creativity to their teaching practices (Sisk, 1981) by developing deliberate methods to maximize the creative potential in children.

Myers & Torrance (1961) observed that a tremendous amount of thought and energy has been devoted to trying to understand children, but not enough time has been spent understanding the teacher. They feel that it is time that teachers be understood as well, so that when teachers behave in certain ways their values and attitudes are taken into consideration. The White House Conference on Education (1970) stressed this very point. "The teacher," it concluded, "is the instructional medium - both the medium and the message - the link between the child and the act of learning." It is this link that needs investigation so that there may be more harmony between the teacher and the taught. As early as 1924 Thurstone expressed the need for exploring the relationship between the teacher and the child. In the last few decades, studies have explored the influence of teacher's

attitude towards creativity and the nurturance of creativity in children (Triffinger, Ripple & Dacey, 1968). The importance of understanding this influence is increasingly supported by evidence of a strong relationship between attitude and behavior (Kelman, 1974). Thus the beliefs, opinions and attitudes a teacher may have regarding the educational process, and his/her own value system, causes the teacher to behave in certain predictable ways towards children. These preconceived beliefs and opinions reinforce the attitude of teachers towards students, especially those that are creative or gifted (Krech, Cruthfield & Ballachey, 1962; Ray, 1974). Therefore, it is important to make teachers aware of whether or not their own behaviors are in harmony with their expressed beliefs. Narrowing the discrepancy between attitude and behavior, becoming aware of their own and the children's creative potential and practicing creative expression simultaneously with the children, will equip them as well as the children to "accept the creative challenge" (Torrance, 1967) needed for future survival.

It is the intention of the present researcher to examine the relationship between the expressed attitudes towards creativity of a group of preschool teachers in Hampshire County and their actual classroom instructional behaviors.

Purpose of the Study

The purpose of this study was to compare teachers' expressed attitudes towards creativity with their actual instructional behaviors in the classroom. Their expressed attitudes were assessed through an instrument called the "Attitude Toward Creativity Test" (Tabatabaean, 1981). Their actual instructional behaviors were assessed by the use of a "Behavior Observation Checklist" developed by the present researcher, to yield information about whether or not the teachers' engaged in instructional behaviors that fostered creative expression in children.

The data gathered through the attitude Test and the behavior Checklist were examined in order to establish whether or not the teachers' instructional behaviors reflected their expressed attitudes. Background variables such as age, sex, educational degree, certification, and years of teaching experience were also measured to determine if they related to teachers' attitude towards creativity and to their instructional behaviors.

Research Questions

An attempt was made to answer the following research questions:

1. The primary question is whether or not there is a significant relationship between teachers' attitude towards creativity as

assessed by the Test and their instructional behaviors in the classroom as measured by the Checklist.

2. The secondary questions are whether or not there is a relationship between teachers' age and their attitudes towards creativity and their instructional behaviors; between teachers' sex and their attitudes towards creativity and their instructional behaviors; between teachers' educational background and their attitudes towards creativity and their instructional behaviors; and between teachers' years of teaching experience and their attitudes towards creativity and their instructional behaviors.

Definition of Terms

Creativity

Creativity, as used in this study, is defined as a human potential that is inherent in every individual and released under proper conditions. The creative act grows out of the uniqueness of the individual on one hand and the "material, events, people or circumstances of his(her) life on the other" (Rogers, 1959, p.251). In other words, it is a mental process involving the combination of known concepts and experiences into new patterns, ideas or products (Smith, 1966).

The creative process involves the combination of flexibility, originality and sensitivity to ideas enabling the thinker to break away from usual sequences of thought into different and productive

sequences, the result of which gives satisfaction to self and possibly to others (Jones, 1972).

Attitude

Attitude, as used in this study, is defined as "the sum total of a person's inclination and feelings, prejudice or bias, preconceived notions, ideas, fears, threats and convictions about any specific topic" (Thurstone, 1929, p.7).

Instructional Behaviors

Instructional behaviors, as used in this study, consists of any behavior - verbal or non-verbal, volitional or otherwise - that is manifested by the teacher in an instructional setting (Hunkins, 1972).

Teaching Environment

Teaching environment, as used in this study, is the instructional environment in which the teacher shares information with the children. The environment provides the individual with the internal security to respond to the external world. It sets conditions for both planned and serendipitous types of learning (Shallcross, 1981). Such a teaching environment has the potential to make learning a meaningful process (Torrance, 1967) and at the same time may, if appropriate, maximize individual creativity.

According to Shallcross (1981) there are three conditions that any teaching environment must fulfill before individual creative growth can be optimized: the physical environment must provide space

and privacy needed by each individual while in the creative process; the mental environment must provide a variety of stimuli for each individual to respond in ways best suited to his/her motivations and abilities; and the emotional environment must establish ground rules allowing for individual growth, experimentation, feelings of self-worth, sense of personal power, and dignity.

Significance

This study was designed to contribute information towards a clearer understanding of the relationship between teachers' expressed attitude and actual behaviors and the role that attitude and behavior play in encouraging creative growth. The relationship regarding teachers' attitudes and their classroom performance could have importance for those in both pre-service and in-service educational training. Hopefully, the findings of the present study will engender a greater sensitivity among participants and general readers to the nurturance of creative behavior among children and in themselves, as well as to the importance of developing optimum conditions for enhancing creative growth for themselves and their students.

Finally, the "Attitude Toward Creativity Test" and the "Behavior Observation Checklist" used in this study can be used in other educational settings to assess the relationship between expressed attitude towards creativity and instructional behaviors that hinder or

foster creative expression in young children.

Assumptions

1. The teachers' attitude and the resultant instructional behaviors hinder or foster creativity in young children.

2. Creative ability exists in varying degrees in all people which require some favorable or appropriate circumstances before such an ability can come to the fore.

3. Preschool years are very important and influential because what children acquire in this phase is carried over into their later years.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

In his monumental study The Act of Creation Arthur Koestler (1964) argues that all humans have as their birthright the ability to be creative. Once we understand what creativity is, Koestler's thesis will not seem as startling as it may at first.

> Creativity is a combination of flexibility, originality and sensitivity to ideas which enables the thinker to break away from usual sequences of thought into different and productive sequences, the result of which gives satisfaction to self and possibily to others. (Jones, 1972, p.7)

This interpretation of creative behavior suggests that creative ability is not the exclusive possession of a few, but that it exists in varying degrees in all people. If we set the proper conditions, these creative qualities will surface (Shallcross, 1981; Stein, 1983). Lesner and Hillman (1983) make this same point by adding that the creative process is both vital and continual particularly during those years in which we are developing life skills.

Numerous documented studies have demonstrated that through self-discipline, individuals have been able to develop their creative potential to its maximum (Barron, 1969; MacKinnon, 1962). It seems

reasonable to assume, therefore, that some degree of creativity exists in all of us, although some individuals, through such mental disciplines as brainstorming, attribute listing, and other techniques designed to increase idea generation can be helped more than others to release and develop their own particular creative potential. Perhaps educational systems need to look more closely at this phenomenon in order to take full advantage of this human resource.

The review of the literature will begin with an historical overview of creative behavior. The nature of creative behavior and what makes human beings creatively expressive will be discussed. Attention will be given to exploring the characteristics of an environment conducive to creative growth. An attempt will be made to establish the importance of early childhood educators in facilitating the release of " . . .this great human force [creativity] within themselves [and the children] . . ." (Smith, 1966, p.3). A review of the literature on the concept and measurement of attitudes will be discussed next.

Since the instructional behaviors of teachers in the teaching environment is particularly influential in facilitating creativity, attention will also be paid on reviewing how teachers' behaviors affect childrens' creative expression.

Creative Behavior

Historical Overview

Historically, creativity has been regarded as magical, divine or even demonic. It was only after Galton's (1870) study of hereditary genius that some philosophical speculations and a few publications devoted to anecdotal accounts of creative performances began to appear. An important product of this interest in creativity was Wallas' (1926) model describing the steps of the creative process: 1. preparation, 2. incubation, 3. illumination, and 4. verification.

In the 1930's Wallas' model was subjected to further experimental examination (Patrick, 1930) when a number of psychometric psychologists devised and used tests of ingenuity and originality. The results of such tests did not correlate well with intelligence tests that were already in use. Another version of Wallas' model of the creative process was provided by Rossman in 1931 who studied the performance of a large number of American inventers. Lehman (1953) studied the biographies of productive people in many fields of activity in order to determine the relations of both quality and quantity of creative output to age during adult years. This study concluded that creative production is at its maximum during the middle years and then gradually declines with increasing age.

But it was not until the 1950s that psychologists began to focus their attention on creativity. In that year J. P. Guilford,the pioneer of creative education, called attention to the neglect of this

vital subject. He pointed out that of approximately 21,000 titles listed in the Psychological Abstracts in 23 years, only 186 were related to the subject of creativity. Guilford (1950) then posed a series of questions that clearly indicate his insight into the behavioral aspects of creativity: "Why is creative productivity a relatively infrequent phenomenon? . . .Why is there so little apparent correlation between education and creative productiveness? . . .Why do we not produce a larger number of creative geniuses than we do, under supposedly enlightened, modern educational practices?" (p. 444).

Guilford's study of 1950 is often referred to as the starting point for research in the area of creativity. Since that time, research on creativity has been conducted from many different points of view. These differences, which illustrate one of the characteristics of the creative process itself, are indicative of the complexity of the subject (Hocevar, 1979; Taylor & Getzels, 1975). As a result of this research serious controversy arose concerning the value of creative thinking, especially those kinds of creative thinking that "lie outside the domain of reason" (Torrance & Hall, 1980). Traditionally in western cultures, scholars have been skeptical about this kind of thinking, granting it little credibility and referring to it as a "regressive process"(Kris, 1952). Within the psychoanalytic school, Jung (1933) was for a long time almost alone in treating this form of thinking with respect.

Kubie (1958) going beyond Kris' formulation, treated creativity as a healthy and adaptive process rather than as a regressive one as it had been previously viewed. He insisted that the preconscious rather than the unconscious is responsible for creativity and argued that only the preconscious has the flexibility necessary for creative thinking unlike the unconscious which is rigid and stultifying. In the 1950s, at the same time that psychologists were changing their views of creative thinking, many research centers were being established to study this new knowledge and its application. One of the most notable of these centers was the Aptitudes Research Project at the University of Southern California where Guilford did his research. The primary goal of this Project was to understand human intelligence, especially the thinking processes of individuals when in the act of creative production. Although creativity was ruled out from the realm of intelligence when the first Stanford-Binet Scale was developed, it was reintroduced to the domain of intelligence through the efforts of researchers like Guilford and others. Research carried out by this Project has since substantiated the initial premise that one of the most important aspects of intelligence is indeed the ability to think creatively. Individual differences in the performances of educated people were also studied with the assumption that whatever the essential functions used by creative thinkers, they are shared at least to some extent by most of humankind (Shallcross, 1981).

The Institute for Personality Research and Assessment under the leadership of MacKinnon and Barron studied creative individuals in several fields, all of whom were already recognized as creatively productive people, with the hopes of determining what specific traits or qualities set them apart from others. Torrance (1963) at the University of Minnesota studied the creative qualities and performances of children, as well as the creativity of teachers attempting to teach creative thinking. He made a significant contribution to the study of creativity, discovering the influence of environmental conditions on creative productivity. At the University of Chicago, Getzels and Jackson (1962) studied the correlation between the aptitude for creativity and an individual's IQ (IQ being the traditional variable in measurement of intelligence). They found that among children with high IQs, intelligence and creativity were fairly independent of one another, meaning that high levels of creativity were not necessarily linked to IQ. The Creative Education Foundation established by Osborn in the 1950s has been in the forefront of research on creative behavior and has sponsored the annual Creative Problem Solving Institute at Buffalo, New York. While these centers were being established, and in conjunction with the rapidly gaining popularity of the Human Potential Movement, eminent psychologists took the position that creativity is a higher mental process and not a regressive one.

Several researchers have attempted to organize these approaches

into schools of thought. For example, Bloomberg (1973) classified them as the psychoanalytic, humanistic, environmental, associative, factorial, cognitive-humanistic, and holistic schools. In a systematic review of the literature, Mackler and Shoutz (1965) arranged them as psychoanalytic, associationistic, Gestalt, existential, interpersonal, and trait theories. Although their reviews are similar in approach to those cited above, Taylor and Getzels (1975) stated that "any attempt to categorize the various approaches can be misleading, since a great deal of overlapping occurs" (p. 4). Golann (1963) took a different approach, dividing schools of thought according to the aspect of creative thinking which most interested them: the products of creativity, the process of creativity, the measurement of creativity, and personality.

In recent years new studies have transcended some of these distinctions. Research by psychologists like Arieti (1976) described creativity as "the magic synthesis", that is, a synthesis which blends together the primitive, irrational force of the unconscious with the logical, rational and cognitive mechanisms of the conscious mind. Arieti used the term "tertiary process" to explain the blending of the primary (unconscious) and the secondary (conscious) processes. May (1975) maintained that the creative processes are not irrational but rather "supra-rational," bringing the intellectual, volitional and emotional functions into play together; in other words, allowing the individual to transcend the limits of the rational process to explore

one's limitless creative potential. Creative thinking, May argues, represents the highest degree of emotional health and is the means by which people self-actualize.

Rothenberg (1976), a Yale University psychiatrist, introduced two new concepts which were nonregressive in nature, that is, which treat creativity as a form of preconscious flexibility lying within the domain of reason rather than as an unconscious process lying outside the domain of reason (Jung, 1933; Kubie, 1958). The first concept, Janusian thinking, refers to actively and simultaneously conceiving two or more opposites, such as contradictory or antithetical images or ideas. Rothenberg viewed this thinking not as a primary mode of thought, but rather as an advanced type of abstract thinking. The second concept, homospatial thinking, refers to actively conceiving two or more discrete entities as occupying the same space, thus leading to the articulation of new identities. Although this latter process involves the visual mode, it is also true that any of the other sensory modalities may be used. Rothenberg maintains that neither Janusian nor homospatial thinking are primitive or regressive but are rather higher levels of thinking that transcend the ordinary rational modes of thought. Both concepts are important in understanding creative thought. Indeed, Rothenberg argues that Janusian and homospatial thinking figure prominently in artistic and scientific creativity.

In educational settings, these concepts can be especially helpful

in understanding what happens to a person during an incubation period as he or she struggles to solve problems involving conflicting ideas. Alfred Adler refers to this phenomenon as "the unity of opposites" (Torrance & Mourad, 1979). Barron (1969) found that people using this "unity of opposites" process were more successful in reconciling the opposing forces in their natures, that is, masculinity-femininity, independence-dependence, conformity-nonconformity, etc.

Impressed by studies such as these, numerous educators are taking the initiative to find new ways to teach more creatively and to see that learners have ample opportunities to develop their creative talents. The first extensive effort to teach students to think creatively was organized by Parnes (1966) at the State University in Buffalo. Taking its cue from several research findings in the 1970's, the Federal government enacted the Elementary and Secondary Schools Act and established Title III programs for the advancement of creativity in education.

Nature of Creativity

Even though relatively few people are thought of as creative, it is a fallacy to think of creativity as a rare or magical process. The creative process, according to Ghiselin (1955), is the process of change, of evolution, of development in the organization of life. It is not a characteristic of a chosen few, but a universal process. It is essential to life itself and integral to our adaptation to life's

demands (Lesner & Hillman, 1983). Indeed, creativity is as inseparable from human progress as the power of imagination (Lewis, 1979). Lewis goes on to point out that the reason why humans tend to repeat old and familiar patterns is not that creativity is lacking but that it is being stifled. The nurture of creativity demands certain leaps of understanding about how we organize our thought processes, leaps which are often considered too daring to make (Lewis, 1979). It is easier to simply ignore the resource. But in the scheme of things, elements frequently ignored sooner or later demand their due, and creative behavior is no exception.

If we are to encourage creativity many questions remain to be answered: What makes one creative? What are the characteristics of a creative person? Who is and who is not creative? Is creativity a process or a product? Is it a collection of inherited personality traits or does the environment allow for creative ability to emerge? Underlying these questions there are further arguments. For example, some say that for a product to be considered creative it must be tangible, while others believe that even a simple expression of thought can also be considered a creative product. Some believe that the process of creating is similar for all people, while others feel that there are as many creative processes as there are individuals. Some argue that an appropriate environment must exist for creative thinking and behavior, while others strongly believe that a creative person will perform regardless of the environment (Shallcross, 1981).

What is ultimately important is the capacity to break out of imposed mental and social boundaries, to "go with the flow", to let creative ability surface and develop.

Individuals who are able to break out of such boundaries stay open to all that is external, integrating what they find outside themselves with the internal. What is most important is that they respect themselves as a source as much as they respect external sources, and that they possess a self-confidence telling them that they too can contribute to their world. Our own attitudes are the key to the realization of the potentialities within us (Shallcross, 1981). In other words, we have the choice of approaching a task with either a positive or a negative attitude. A positive attitude is needed to develop a positive self-concept which, in turn, is necessary for self-actualization (Maslow, 1981). This is not to say that a negative attitude is incompatible with creativity. A creative product can take two forms. Psychotherapists say that when individuals are "open and sensitive" to all of their experiences, then their behavior has the tendency to be creatively constructive. In contrast, if individuals deny or repress large areas of their experiences but are sensitive, then their creative behavior may become pathological or socially destructive (Rogers, 1976).

When a person behaves creatively, he is basically re-focusing elements of his experiences into new and meaningful relationships (Parnes, 1967). Merely because only a very small proportion of these

new formations are unique enough and have enough social value to be called "creations" by society does not detract from the creative ability within all of us. Labelling certain people "gifted" and "talented", implies at the very least that they were born that way. Although this may be the case - and such labelling is probably inevitable - making much of special abilities has the potential danger of excluding everyone else, thus forestalling attempts to foster or stimulate the creativity of the vast majority of the population (Stein, 1983).

Creative behavior can be defined as a response, or patterns of response, operating upon internal and external discriminative stimuli, that is, words and symbols. Information, per se, may not be as important to creativity as the way one seeks it, receives it, and subsequently treats it (Hyman, 1964). The more elements in one's experience, the more opportunities there are for creating new relationships. Consequently, one's chances for enjoying a life rich with meaning are greater. Such terms as self-fulfillment, self-actualization, potentialities, gifted, and talented, all share a common feature. They denote characteristics with which nearly all human beings have the potential to achieve, but which require some favorable or appropriate circumstances before they come to the fore.

In short, creativity is one of the essential ways by which human beings "choicefully" extend themselves beyond the ordinary, leading to the appreciation of insightful experience and the discovery of the

novel (Motamedi, 1982). It underlies the way we relate to the outer world of objects and events and bring them together with our inner world of images and ideas. Creativity is a journey beyond the familiar into the unknown, and each passage of the journey elicits different feelings and styles of thinking. Creativity manifests itself as being inventive and innovative; it generates, implements, and communicates efficient strategies for acquiring and using information in new ways (Arieti, 1978).

This becomes clearer when we examine how a creative decision is made. First, one speculates on what "might be" from a variety of viewpoints, then one senses and anticipates all the conceivable consequences or repercussions of the variety of actions contemplated. Finally, one chooses and develops the best alternatives, being fully aware of the choice. Creativity, therefore, involves knowledge, imagination and evaluation. Without knowledge, imagination has little to act upon; without imaginative speculation, knowledge is of little use as it cannot cope with a world in constant flux. It is creativity which gives us our ability to synthesize and evaluate our world and ourselves (Parnes, 1967). Creative people have the desire to change their immediate world and also to enlarge their field of knowledge and experience, in order to live fulfilled lives.

The creative individual challenges assumptions, questions what seems on the surface unquestionable, tolerates perplexity and rushes to no judgements. Creative people take risks, seize upon chance, form

networks of people who interact in other creative ways, build bridges between the subjective and objective, and discover order amidst chaos. The curious mind is the creative mind; the fresh eye, the creative eye; the receptive heart, the creative heart.

Although creative people seek patterns, they refuse to clutch at them. Psychological tests have shown that they love the challenges presented by complexity, asymmetry and incompleteness. In fact, they often turn away from the easily understood, preferring the complicated and unfinished. They bear with the perplexities, live unanxiously with confusion because they are content to wait patiently for an ordering of their own to occur. They tend to be more self-sufficient and adventurous, sensitive to problems, and possess a great amount of inner resources. When found in dire predicaments, instead of succumbing to frustration, despair and defeat, they turn the situation into a challenge and an opportunity (Taylor, 1978).

Having reviewed the evidence regarding the nature of creativity, what remains to be discussed is the sort of environment which would support creative development. If the environment is one which allows for mistakes, and encourages experimentation and risk-taking, the hidden creative capabilities will emerge and grow. Since human beings are constantly responding to their environment, either actively or passively, it is more likely that their response will be active if the environment supports the development of a sense of creative expression and positive self-worth, particularly in a child's formative years.

From what has been observed, environments not conducive to creative expression are common; those supporting creativity are the exception. We should also keep in mind that there are forces other than the environment which hinder the creative journey and which need to be identified. Adams(1980) believes that perhaps the biggest of the blocks is the sense of helplessness caused by our adherence to rigid views of life and self-defeating ideas. Motamedi (1982) makes a similar point when he rightly contends that creativity requires becoming intimate with oneself and one's relationship to the world, remaining attentive to daily occurances, and staying free to learn, unlearn and relearn. Therefore, if we are to facilitate and enhance our creativity we must better understand the creative personality, the creative process, and the techniques of creative thinking (Davis, 1983). In other words, we should attempt to make our existence a life-long learning process, enhanced constantly by our emerging creativity.

Creating the Environment/Climate

Before creative behavior can be nurtured in individuals, a conducive learning environment in and out of school has to be established. A conducive learning environment is one which is constructed with the physical, mental and emotional needs of the learners in mind. In order to do this, consideration must also be given to individual styles of learning and the motivation of a child or a group wanting to learn. If these considerations are kept in mind

when building an educational environment, conditions can be created providing for both deliberate and serendipitous types of learning. This in no way means that chaotic conditions must exist if a child is to have the necessary freedom to develop his creativity. Rather, creative productivity imposes upon the individual the structure of self-discipline within a semi-structured situation (Shallcross, 1981). According to Shallcross (1981), the development of maximum creativity depends upon the following environmental conditions.

The physical space should be tailored to classroom activities. Though this may seem obvious, its implications can be easily overlooked. For example, children attempting to explore their own creative behaviors require personal space. Since these children are encouraged to take risks, to try new things, to be different, it is imperative that they have some privacy while in the creative process so that no premature judgments are made by others. Early intervention or criticism can often become a source of discouragement rather than encouragement. Besides physical privacy, easily available resources at crucial moments are necessary and play an important part in encouraging creativity.

A desirable mental climate is one which challenges the learner but does not overwhelm him. In fact, there should be built-in success in these challenges and these should become developmentally more difficult as progress is made. Because of the diversity of learning styles and interests among students, a variety of stimuli are needed

in order to take into account the differences in what individuals will respond to. Learning occurs when the individual connects with a stimulus (animate or inanimate) serendipitously or deliberately, thus creating meaning for him or herself.

Appropriate physical and mental climates will not be effective if the emotional atmosphere is not supportive, giving students the internal security to respond to the external world. Established ground rules allow students to grow at their own rate, maintain their individuality and retain the privacy of their work until they are ready to share. These rules also allow for experimentation, risk-taking, a feeling of self-worth, and a sense of personal power and dignity. Violations of trust or "being burned" can be very detrimental to the development of creativity.

To maximize creative potential in children, an environment taking into consideration the appropriate physical, mental and emotional climate is imperative (McVickar, 1972). But no matter how conducive the environment is to creative development, there will be no development if individuals have blocks or barriers to their own creative expression. Therefore, before one can self-actualize or grow creatively, it is very important to find the source of one's barriers, which may be internal or external, real, imagined or self-imposed. Shallcross (1981) identifies the three most important of these barriers: (1) external barriers, imposed by ideological, social and cultural conventions leaving the average person feeling that he/she

has little, if any, control over his/her life; (2) sociological barriers, stemming from our personal circumstances. The social environment is a major factor in determining our ability to express our own uniqueness; and (3) physiological barriers, such as physical handicaps. These can be particularly difficult since they are often used as excuses for not expressing creative behavior. Individuals convince themselves that they cannot overcome external and social barriers and thus make no effort to change the circumstances surrounding them. But although these barriers are difficult to overcome, they are not insurpassable.

It is encouraging to discover that effective educational programs are being designed and implemented to increase the creative productivity levels of individuals both young and old (Adams, 1980; Anderson & Anderson, 1963; Hutchinson, 1964; Parnes, 1967; Shallcross, 1981; Sommers, 1962). Ramey and Piper (1974) reported that, for instance, open classrooms are more conducive for the emergence of creative personality traits than are traditional classrooms. Haddan and Lytton (1968) investigated the effects of informal progressive teaching as opposed to formal teaching on measures of divergent thinking abilities in 11 and 12 year olds. Even when matched for verbal reasoning ability and socioeconomic backgrounds, the children in the informal setting demonstrated significantly superior divergent thinking abilities than children in the formal setting. In a follow-up study, four years later, the same authors found that

children from the informal setting still performed significantly better, regardless of the type of school they were presently in. This means that whatever learning children are exposed to in their early years, has a strong tendency to persist in their later years, regardless of their present learning atmosphere.

Davis (1983) is surely right in his belief that the most critical consideration in stimulating creative thinking is maintaining a creative atmosphere, one in which creativity is encouraged and rewarded. But teachers have to be aware that paradoxically children's creative acts can sometimes be destructive. When this happens, we have to decide whether to reinforce the act or not, depending on the consequences of the act upon others. This dilemma is faced quite frequently in our experiences with young children. Therefore, it is important to remember that the creative process as well as the product has to be considered in encouraging and rewarding creativity. By constantly rewarding creative behavior, we are also reducing the schism between the individual's creative potential and creative productivity (Jones, 1972).

Besides the need to reduce the discrepency between potential and productivity, there is also an increased need for people skilled in creative thinking and problem solving. This is especically true of teachers, who are responsible for releasing the creative potential in children (Isaksen, 1983). Isaksen, using the work of Torrance and Myers (1970) and others as a resource, developed a list of suggestions

for teachers to establish an atmosphere conducive to creative growth in their students. The suggestions are:

(1) Identify previously unrecognized and unused potential.

(2) Respect an individual's need for privacy; encourage self-initiated projects.

(3) Allow for individual success.

(4) Design the curriculum to voice the beauty of individual differences.

(5) Reduce pressure and provide a nonjudgmental environment.

(6) Tolerate complexity and disorder when necessary.

(7) Communicate that you are "for" the individual rather than "against" him.

(8) Support and reinforce unusual ideas and responses of individuals.

(9) Use mistakes as a learning tool and help them to meet acceptable standards in a supportive atmosphere.

(10) Adapt to individual interests and ideas whenever possible.

(11) Allow time for incubation and development of creative ideas.

(12) Create a climate of mutual respect among individuals for sharing, developing and learning from one another as well as independently.

(13) Be aware that creativity is a multi-faceted phenomenon;it enters all curricular areas,not just arts and crafts.

(14) Encourage divergent activities by being a resource and a provider rather than a controller.

(15) Listen to and laugh with them; a warm supportive atmosphere provides freedom and security for exploration and developmental thinking.

(16) Allow individuals to have choices and be part of the decision-making process; let them help control their activities.

(17) Let everyone get involved and demonstrate the value of involvement by supporting individual ideas and solutions to problems and projects.

(18) Use criticism carefully and in small doses.

(19) Encourage and use provocative questions, avoid close-ended questions.

(20) Don't be afraid to start something new.

Unfortunately, suggestions such as these are usually ignored. Should we continue to accept schooling as it is, we must also be willing to accept the responsibility for future citizens who will neither function nor learn as effectively, efficiently or independently as their potential permits (Renfrow, 1984).

Creativity in Early Childhood Education

Fostering creativity is a well accepted educational goal. But how is this to be done? Many educators believe that the open classroom facilitates learning and creative expression through its emphasis on self-direction, integrated studies and responsible decision making (Golub & Hahn, 1983; Ramey & Piper, 1974). Learning, Holt (1964) points out, leads to intelligent action; further learning arises only out of the experience, interests and concerns of the learner. Education, he observes is something that a person gets for him/herself and not that which someone else gives or does to him/her.

Needless to say, it is not possible to teach children all they will need to know to live in the next century. But, through appropriate educational reforms, they can be helped to apply relevant information to solve the problems confronting them. It is imporant that they be encouraged to assume responsibility for their own learning; that is, to become independent, self-directed and life-long learners; that they be prepared to integrate knowledge from different fields to solve problems which will be increasingly global in nature (Husen, 1974). In order for them to do this, children need to acquire a generalized set of intellectual abilities and skills (Rogers, 1962). An assumption can be made, thus that once children have mastered all or some of these skills, they will be able to transfer them to new academic and non-academic situations, and thus be more fruitful in

their endeavors. According to Renfrow (1984) children enter schools with very effective learning tools. The choice is ours, whether we help or hinder their naturally developed skills. Hawkins (1965) could not have stated it better when he wrote:

> Good schools begin with what children have in fact mastered; probe next to see what they are learning, continue with what in fact sustains their involvement. (p. 41)

If Hawkins' ideal had been the objective of the education system, then all the hue and cry about going back to basics, making education more relevant, school drop-outs, and other similar problems may not have existed to the degree they do today. To be sure "good schools" as described by Hawkins do exist, but in such small numbers that they have very little effect on the overall quality of education. Aware of the enormity of the problem, the Creative Education Foundation sponsors the widely attended annual Creative Problem-Solving Institute at the State University in Buffalo, New York. The Federal government established Title III programs for the advancement of creativity in education. Along with these government operated programs, many private, group and individual efforts have emerged to enhance creative education in schools. What is needed now is that teachers become more aware of and understand the creative process (Davis, 1983). It is not enough to acknowledge the value of fostering creative behavior, and then keep on teaching in the traditional and conventional styles. Teachers need to liberate their own creative tendencies and practice

creativity simultaneously with their students in the classroom, if creative expression is desired. Rather than merely returning to basics, teachers need to be willing to apply the material available on creativity to the learning situation (Sisk, 1981). As long as teachers merely perceive themselves as transmitters of information and evaluators of performance, there is little chance that new instructional strategies will replace the time-honored techniques of formal teaching (Husen, 1979).

Even though creativity in one form or another has been an issue throughout the history of education, the idea of teaching it has not been given its due, with the exception of a few programs, e. g., the "new math" and elementary school science. But, as Jones (1972) points out, creativity belongs to all fields of endeavor. Hawkins (1965) suggests a "messing about" style of teaching young children, where a great amount of time is devoted to free and unguided exploratory work, and children are allowed to construct, explore and experiment without much supervision. The atmosphere is one of freedom within structure, where questions arise spontaneously as a result of children's exploration and experimentation. He goes on to say that "as time goes on, this 'messing about' phase evolves with the child's development and thus changes its quality. It becomes a way of working that is no longer childish, though it remains always childlike, the kind of self-disciplined probing and exploring that is the essence of creativity" (p.41).

Hawkins (1965) considers the preschool phase very important and influential because what children absorb and acquire in this phase is carried over into later school years. In other words, this phase is the root or source of their later moral, intellectual and esthetic development. Why not take advantage of this tremendous potential that is just waiting to be set free and help it to blossom?

The most effective way to induce children to release what they innately possess is to let them have freedom and to let their imaginations soar. According to Maslow (1981,1971) all children have the potential to move forward and grow in this direction, therefore, reaching one's potentialities is a normal process of psychological growth. Thurstone (1967) could not have stated it better when he wrote:

> A fortunate teacher is one who realizes that the starting point for the educative process is the child's own mind, and that the tools of education are merely the means whereby we attempt to induce the child to express its own self in a direction that may be ultimately advantageous. (p. 12)

Freedom

One rationale for recommending that children be given freedom is based on the nature of creativity itself. Because creativity involves producing something new and different, it seems reasonable to assume that it would demand a degree of independence in the creator. Francks (1979) for example, argues that our responsibility as teachers is to encourage creativity by allowing children to encounter the world by

exploring, experimenting, testing, sensing, and generalizing on their own. By doing so, we will be setting the foundation for their creativity to evolve spontaneously and joyfully throughout their lives. The assumption here is that children will learn to act independently when given the freedom to do so and will carry this independent attitude into adulthood (Barron, 1963; MacKinnon, 1962; Rejskind, 1982).

There is a sizeable body of literature supporting the belief that autonomy and creativity are linked together (Pagano, 1979; Rejskind, 1982; Rogers, 1959; Torrance, 1965; White & Owen, 1970; Wodtke & Wallen, 1965). Rogers (1959) contended that psychological freedom is one of the conditions necessary for fostering creativity and urged teachers to use caution in setting limitations (MacKinnon, 1962). Taylor (1973) suggests that teachers should leave children alone; Miel (1961) wrote that students need the freedom to rebel; and Moustakas (1967) said that they need the freedom to conform. Torrance and Myers (1970) advised teachers to give students freedom to experiment with new ideas and to let their creative imagination emerge.

McVickar (1972) quotes Piaget as saying that "they [children] must be able to try things out to see what happens, manipulate objects, pose questions, . . . seek answers" (p. 44). This freedom of exploration, McVickar goes on to say, is the key to unlocking the potential of human creativity. But few teachers encourage this freedom because they fear letting children make choices, decisions and

drawing their own conclusions. Besides the teachers' problems, the "creative child" also has to face certain dilemmas, for example how to be free within discipline, how to have a young outlook with mature judgment, etc. Yet such dilemmas, despite the frustrations they offer teachers and children alike, must be dealt with if individual integration is to be achieved. The person who reaches this stage of development can be both childish and mature, can regress and then come back to reality, can become more and then less controlled and critical in his responses.

Imagination

Parnes (1967) states that the "prime medium" (p.13) for instruction is the imagination of the child. It is commonly accepted that any medium of instruction must first engage the student by capturing his/her attention and interest. What could possibly capture the student's attention more completely than the realization that he/she has the power to discover and to create knowledge? This "built-in-medium" - imagination - is the nucleus of the student's mental energy and is capable of being activated by teachers who are trained to do so (Parnes, 1967, p.13). Unfortunately, many teachers still persist in pouring in from without, rather than drawing out from within. They are still unaware that in order to promote learning and growth, let alone creativity, they must be willing to "delegate the authority to think" to the children. On the contrary, students receive so much spoon-feeding from instruction manuals and adult

direction, both in and out of school, that they fail to develop or retain the attitudes and abilities necessary to creatively handle situations comfortably and confidently (Land, 1982; Parnes, 1967; Silberman, 1970).

Realizing the importance of children's creative imagination as a means of freeing them to try out new experiences, feelings and ideas, the National Association for the Education of Young Children hosted a conference titled "Imagination - Key to Human Potential" in 1972 at Pacific Oaks College in California. The discussion centered around the concern that children's imaginative processes are getting lost in a world that seems to value predictability, safety and conformity. The primary purpose was for the participants (mostly teachers and administrators) to experience what students go through and to find new ways to encourage and support imagination in young children.

The outcome of this conference is best summed up by the comments of some of the participants: "'What a child finds out for himself is right, it is his own. I learned to let him find it himself, even though I see it may be incorrect.'; 'Art [creativity] is not just for school, it is something to do anytime and in any place. We need to let children know this.'; 'When you let yourself become imaginative in one area of interest, it stirs up all areas.'; 'Now I know how children feel.'" As a result of their own experiences in this hands-on-conference, these teachers became more lively and creative in their thinking and teaching methods. Such experiential sessions can

be beneficial to educators as a means of discovering how such learning (imagination and creativity) can be enhanced or stifled by the prevailing attitudes in the educational environment. Individual school districts need to realize the value of such experiential training sessions and then expose their teachers and students to the creative process, thus facilitating self-actualization (McVickar, 1972).

Parnes (1967) and Jones (1972) both say that the educational system has not made an adequate attempt to develop students' imagination or to make them think about things in interdisciplinary ways. Creative qualities that are needed to make someone a good painter or writer are similar in nature to those that would make another an equally creative physicist or biologist. The common bond between human beings is our innate creativity; it is this thread which holds us together. Finding ways to strengthen this thread is one of the greatest challenges facing us today.

It is ironic that although physical education does not take for granted the automatic physical development of students without planned programs, most educators assume that creativity will flower spontaneously without any planned programs. Parnes (1967) suggests that schools should provide "creative calisthenics" (p.22) to prevent the atrophying of talents and to develop the creative muscles through exercise and constant use.

If people could be exposed to the kind of educational process which accustoms them to tapping their own resources, then they might experience the excitement of intellectual inquiry and self-fulfillment throughout their lives. The child's entire life would be built around an intense desire to learn. Just as researchers find the process of discovery a source of excitement and self-fulfillment so education should provide this same sense of excitement to children at their own level, preparing them to see life as a continuous creative experience, a flowing and a merging of what we have and who we are, with what we absorb daily, ending up with connections and new relationships between things that appear to be disconnected in this world.

It could be argued that there are two essentially different worlds: the academic world with its current school-like activities, and the "real world" calling for action and behavior frequently unrelated to what goes on in the ivory tower. Creativity can be the great unifier of these two worlds. And what better place for this phenomenon "creativity as a unifying force" to begin than at the learning centers where the future generation presently spends most of its time and energy - preschools and elementary schools?

Students need to be made to see and use the creative link between all disciplines. Creative behavior can also be practiced as a transferrable skill which students should begin to understand that it can be applied in all situations and settings, in and out of schools. Only in this way will schools be faithful to their commitment to

developing the whole child and to providing opportunities for children to experience real change.

Attitude and its Conceptual Development

Social psychologists have been discussing the nature of attitude for many years. According to Allport (1935) "no term appears more frequently in experimental and theoretical literature" (p. 810) than attitude. In the years following Allport's remark, attitude continued to occupy a central place in social psychology, because of its usefulness to researchers as a dependent variable (Kelman, 1974; Shaw & Wright, 1967).

Kelman (1974) argues that the attitude of an individual toward an object forms in the course of experience with that object. This experience elicits information about the object, about the attitude of others toward the object, and/or about the person's own connection with the object.

This process is dynamic, as the experience of the individual with the object increases, the attitude of the individual develops and/or changes. Changes, however, usually occur slowly and gradually because when attitudes are formed they influence "the kind of information to which the person will be exposed, the way in which he/she will organize that information, and often (as in interpersonal attitudes) the way in which the attitude object itself will behave" (Kelman,

1974, p. 316). Therefore, in his view, attitude and behavior have a reciprocal effect upon each other.

Historical Overview

The concept of attitude has played a major role throughout the history of social psychology. Research in this area led to the conclusion that attitudes influence people's thoughts and actions (Baldwin, 1901). The first use of attitude to explain social behavior must be credited to Thomas and Znaniecki (1918) who viewed attitude as individual mental processes that determine a person's actual and potential responses.

Very early, then, social scientists assumed that attitudes are behavioral dispositions which can be used to explain human action. Early research seemed to confirm the validity of unidimensional attitude scales by showing that people who behave in different ways also differ predictably in their attitudes. The findings of several researchers, that groups known to differ in their behaviors also differ in their measured attitudes was taken as evidence confirming the assumption of a close link between attitude and behavior. Given this assumption, most investigators turned their attention to studies of attitude formation, organization and change. Indeed, with few exceptions, this assumption went unchallenged until the late 1960's. For example, Krech, Crutchfield and Ballachey (1962) argued that:

> Man's social actions - whether the actions involve religious behavior, ways of earning a living, political activity or buying and selling goods - are directed by his attitude. (p. 139)

But in his research on attitude measurement Thurstone (1931) made it clear that even though a person's attitude toward an object is related to the pattern of his behavior with respect to the object, there is no necessary relation between attitude and any given behavior. Other investigators began to question the assumption that attitudes serve as behavioral predispositions. The first and best known study is LaPiere's (1934) investigation of racial prejudice. In the early 1930's, LaPiere accompanied a young Chinese couple in their travels throughout the United States. Calling upon 251 restaurants, hotels and other establishments, they were refused service only once. About 6 months later, LaPiere sent a letter to each establishment visited, asking the same question: "Will you accept members of the Chinese race as guests in your establishment?" Of the 128 establishments that replied, over 90% answered "No." This and similar findings raised serious doubts for the first time about the existence of a reciprocal relation between attitude and behavior. Negative results were soon reported by other investigators. For example, Corey (1937) used a Likert Scale to measure students' attitudes toward cheating. Over a period of five weeks, these students took five true-false examinations. Each week's test papers were returned unmarked after the student scores had been recorded. The students

then graded their own papers during the following class sessions. The difference between the true score and the score each student reported for himself, summed over the five tests, was found to be completely unrelated to the students' attitudes toward cheating.

As these negative results began to accumulate, various explanations were offered for the failure of attitudes to predict behavior. The first was made by Doob (1947). Relying on behavior theory, he defined attitude as an implicit mediating response to a stimulus object. Just as a person must learn the mediating response (attitude) in the presence of the stimulus object, he must also learn to make a specific overt response to the attitude. Thus, Doob saw no innate relationship between attitude toward an object and any given behavior with respect to that object. Two people may learn to hold the same attitude toward a given stimulus, but they may also learn to emit different responses, given the same learned attitude. Although the attitude may intially predispose them to behave in the same way (positively or negatively), the behaviors they ultimately come to exhibit will depend on the nature of the reinforcements they receive. Both Thurstone (1931) and Doob (1947) argued that the same attitude can be expressed in different actions. While knowledge of a person's attitude can tell us little as to whether he/she will exhibit some particular behavior, it can tell us something about his/her overall pattern of behavior.

Most investigators, however, were unwilling to give up the assumption that there is a direct link between attitude toward an object and any given action with respect to that object. Instead, they considered alternative explanations for the failure of attitudes to produce behavior. One such explanation seems to follow naturally from the concern first expressed by Allport (1935) that unidimensional affective or evaluative measures did not do justice to the complexity of attitude. Despite the fact that most attitude measurement were unidimensional, the prevailing conceptions of attitude were much more elaborate. For example, Krech and Crutchfield (1948) defined attitude as "an enduring organization of motivational, emotional, perceptual and cognitive processes with respect to some aspect of the individual's world".

This being the case, the present researcher wishes to ascertain, for the purpose of this study, whether there is a direct link between attitude toward an object and any given action with respect to that object. The "attitude" in this case is the teacher's attitude towards an object "creativity," as assessed by a Test. The "given action with respect to that object" refers to the teacher's instructional behaviors in the classroom, as assessed by a behavior Checklist. Therefore, some time will be spent discussing the relationship of attitude with respect to creativity.

Relationship of Attitude to Creativity

Dennis Hocevar (1979) in his study of the measurement of creativity reports that several researchers developed devices based on the assumption that "a creative person will express attitudes and interests favoring creative activities" (p. 4). Examples of attitude study are: the study of values (Allport, Vernon & Lindzey, 1960), a creativity attitude survery for children (Schaefer & Bridges, 1970), and a childhood attitude inventory for problem solving (Covington, 1966). Their primary purpose was to determine the attitudes, beliefs and values that are assumed to measure the subject's creative abilities.

Studies by Treffinger, Ripple, and Dacey (1968), and Baroody, Brumley, Hocevar, and Ripple (1976) examined the effect of a training program on creativity and found on the average that the program had a significant effect on teachers' attitude toward creativity. In 1978, Migaki examined the attitudes of prospective elementary school teachers toward certain activities that were assumed to be effective in the "formation of positive creative attitudes" (p. iv). The results indicated that "exposure to selected experiences which are believed to contribute to favorable creative attitudes may increase the individual's cognitive awareness of creativity without effecting their creative attitude" (p. v).

Much research has been conducted to measure various aspects of creativity during the last 25 years. Studies have indicated the importance of teacher's attitudes towards creativity in fostering or hindering creative expression in children, although little attention has been paid to the assessment of teachers' attitudes towards the creative process itself. Baroody et. al., (1976) describes the influence of teachers' attitudes toward creativity thus:

> Today's increasingly complex and rapidly changing society demands that man make use of his extensive potential for adaptability. The development of children's creative problem solving ability is crucial in the development of this potential. The nurturance of this capacity in children, may be critically dependent upon their teacher's attitudes towards and skill in nurturing creativity. (p. 1)

In an earlier study Treffinger, Ripple and Dacey (1968) also stressed the significance of teachers' attitudes thus:

> It is clear that the effectiveness of the school in helping pupils realize their creative potential hinges on the attitude of teacher's toward creativity and its expression in their pupils. (p. 1)

Kelman (1974) after examining the literature that questioned both the validity and usefulness of the concept of attitude, comments on the effect of attitude on action by saying, "not only is attitude an integral part of the action, but action is an integral part of development, testing and crystallization of attitude" (p. 324).

If one accepts the premise that the teacher, more than any other single individual in educational settings, has the greatest influence on the nature of the classroom environment - whether that environment

is characterized as open or closed, restrictive or permissive, traditional or progressive, then it must follow that the attitudes teachers have about education - the educational process, the nature of the learning environment and the means for achieving certain educational goals, are responsible, in large part, for the climate found in classrooms. It is these educational attitudes which compel teachers to act in certain ways towards students (Kerlinger, 1964).

Since many agree that educators should develop creativity, yet questions about the exact nature of the relation between attitude and behavior have not been fully answered, it appeared worthwhile to attempt in the present study to determine the relationship between teachers' attitude toward creativity and their instructional behaviors in the classroom.

Teachers' Instructional Behavior

Another important source of reinforcement and a variable contributing to a climate which fosters or hinders creativity in educational settings is the instructional behavior of the teacher. The role of the teacher is central to the educational process. It is the teacher who determines the climate within a given classroom as well as the range of "acceptable behavior" on the part of the students. "School is more than a place where academic skills are taught and learned; it is a miniature community in itself where

members interact and influence the behavior of each other" (Shoban, 1962).

Acceptance or rejection by teachers can have a profound influence on the development of students. Clearly, "the attitudes, prejudices, needs, and conflicts which teachers have are reflected in their behavior and influence strongly the social [creative] growth of children" (Haring, Stein & Cruickshank, 1958; p. 5).

A teacher's beliefs, opinions and attitudes regarding the educational process combined with the teacher's own value system causes the teacher to behave in certain predictable ways towards students (Krech, et. all., 1962; Oppenheim, 1966). The teacher's preconceived beliefs or opinions (based on whatever background source) of "gifted", "creative" or "ideal" students reinforce the attitudes teachers have about these students. Combined with strong emotional feelings, attitudes compel action based on the attitudinal preferences. There is much evidence to suggest that teachers' educational attitudes are expressed in their classroom behaviors and have a significant effect on students. Further investigations by Lippet, White and Anderson as reported by Evens (1965) indicated that the attitudes of teachers toward students have a considerable effect not only on classroom relations but also on the quality of student performance.

In their study of the highly creative adolescent, Getzels and Jackson (1970) asked "which of the two groups [high IQ student and

high creative student] were preferred by teachers?" They found that "even though their academic performance, as measured by achievement tests, is equal, the high IQ student is preferred over the average student, whereas the high creative student is not" (p. 194). The authors also found a negative correlation between the personal qualities creative students prefer for themselves and the personal qualities they believe teachers prefer for them. But there existed a high positive correlation on the same two variables for high IQ students.

Torrance (1963) investigating student personality traits that teachers felt should be encouraged or discouraged, added further evidence that teachers dislike the traits and behavior creative students usually display. The teachers' emphasis on conformity shows the disparity between their values and those needed to truly foster creativity in students.

Roe (1963) identified several attitudes within the classroom which effect creative children more adversely than other children. The first is "the insufficient valuation of problem solving attitudes". She goes on to observe that:

> This is particularly prevalent in the lower grades, perhaps because of the presumed necessity for concentration on the development of verbal skills in those levels. (p. 134)

All too often, professional practioners fail to examine their own fundamental attitudes. Rather than acting with deliberation, they

react unconsciously. It is much easier to preserve existing values than to challenge them. But this type of thinking limits available options. Self-examination requires effort and the willingness to discard that which is no longer useful. It means redefining our map of reality. Teachers' personal belief-systems govern (positively or negatively) their expectations in the classroom. These expectations have a domino effect by triggering subtle yet predictable patterns of behavior and interaction in their students (Lobets & Pennewill, 1984).

In a study entitled "Pygmalion in the Classroom" Robert Rosenthal (1968) of Harvard University demonstrated that a teacher's expectation of pupils' intellectual functioning and competence can become a self-fulfilling prophecy (Bridges, 1979). Lobots and Pennewill (1984) believe that educators play a Pygmalion-like role in their relationships with students because, as Rosenthal's study pointed out, their attitude is the key to student performance. The importance of the teachers' expectation cannot be over-emphasized. A positive mental attitude is the foundation that the teacher builds upon when working with his/her students. The word "educate," according to Catherine Ponder (1978), "truly means to draw out that which innately exists within". The teacher who believes this will find it confirmed in the classroom as did Marva Collins, a Chicago teacher. She took children labeled "rejects" according to the traditional system and created winners. She acted as if they were winners and they proved her to be correct (Lobots and Pennewill, 1984).

The Lombardi Theory

The belief that students are winners was successfully implemented by coach Vince Lombardi. He was a success because he visualized success. He expected first-rate performance from his players, and therefore created a learning environment which cultivated motivation and taught others how to believe in themselves. He employed a number of techniques consciously designed to encourage active learning: socratic, eclectic, experiential, and lecture. Moreover, he was willing to vary his teaching methods to create an active learning environment (Lobots Pennewill, 1984).

To avoid classroom dynamics which foster dissatisfaction and mediocrity, Lombardi followed a philosophy of education based upon all five methods mentioned above. It is also important to remember that the method employed is second in importance only to the teacher's motivation. Such a philosophy encourages us to carefully select the best approach for the subject we wish to discover. Regardless of the method, the decision should by governed by a desire to create an active learning environment, where "learning" is defined in the full sense of the term as the "application of knowledge" (Lobots & Pennewill, 1984; p. 240). Learning should be an active, or more appropriately, an interactive process. If teachers are enthusiastic, they will be just as eager to get a response from their students as they are to impart information.

Besides the above, Lobots (1982) suggests that teachers re-examine their delivery system and methods in order "to live what we teach and to share what we know". Each teacher can be Pygmalion and let the students grow by allowing them to come alive within the classroom and aspire to fulfill their talents.

To be an effective teacher requires commitment and effort. It demands a willingness to learn from students and the ability both to recognize the need for and to implement it. This courageous honesty forces the examination of our motives and to direct our attention to worn-out values which may need to be redefined or discarded (Lobots, 1982). The relationship between student and teacher is, in effect, a microcosm of the macrocosm of human relationships. Teaching consists of guiding and directing rather than the grafting of knowledge. It requires the ability to recognize the potential within every student and the motivation to accept responsibility for cultivating that potential.

Before ending this section, it is necessary to mention that the gifted comprise a minority of the population. Within this minority is yet another minority - gifted disadvantaged youth. Even though these children are a small percentage of our total population, they are very important to our society's future. Torrance (1977) makes this point when he asserts that:

> There is a great deal of giftedness among the culturally different, and the waste of underuse of these resources is tragic. (p. 109)

Thus nurturance of the creative potential of these youth is a central issue in education. Unfortunately, schools have discriminated against children who have not been raised in the mainstream culture (Dabney, 1980; Feldhusen & Treffinger, 1977; Lloyd, 1966). Teachers often value characteristics and behavior foreign to the disadvantaged child's experience, thereby disapproving the child's culture specific behavior. Especially in inner-city schools, the emphasis is on discipline and "good behavior," not on creative thinking (Feldhusen & Treffinger, 1977).

In the past, education has focused on compensation of the disadvantaged child's deficit (Dabney, 1980; Feldhusen & Treffinger, 1977). But Torrance (1977) argues that instead of emphasizing the compensation of deficits, the strengths of the particular subculture should be stressed. He goes on to point out that in the future, besides mainstream gifted students, we shall also have to depend upon creatively gifted members of disadvantaged and minority cultures if our society is to continue its record of achievement.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Design of the Study

Introduction

This study proposed to carefully observe the teaching environment in nine preschool settings. The purpose of the study was to assess teachers' nurturance or hinderance of creativity in young children through live observation of the teachers' instructional behaviors in their classrooms using the "Behavior Observation Checklist"; and to measure their attitude towards creativity through a written "Attitude Toward Creativity Test". The data collected through the Test and the Checklist were analyzed using a Pearson product-moment correlation coefficient and an Analysis of Variance test. The information collected from the Personal Data Form was also used to examine the extent to which the variables it measured influenced the relationship between the teachers' attitude towards creativity and their instructional behaviors in the classroom.

Setting

The research sites were chosen from a total of 67 programs listed in the "Preschool and after school child care options in Hampshire

county: 1984-85", published by the Direct Information Service and the University of Massachusetts Child Care Office. Letters to the directors of 12 preschools (half-day programs) and day care centers (full-day programs) located in Amherst were sent, explaining the nature of the research and asking for permission to conduct the study in their respective centers. If permission was granted then the names of teachers in their centers who taught children between the ages of three to five years were requested. These 12 centers were chosen on the basis of their close proximity to the University of Massachusetts; the age range (three to five years) of the children attending these programs; and the fact that none of these programs were under the public school system. Of the 12 letters sent out, only seven directors responded positively and gave the names of the teachers in their centers. The remaining five directors refused permission as they felt that their program was not appropriate for the study. From the same child-care option booklet, using the criteria of childrens' three to five years age range, outside of the public school system and from neighbouring towns, one center each in Leverett, Hadley, Northampton and Florence was chosen. Letters to the directors of these centers were sent. Of the four letters sent out, only two directors from Leverett and Florence responded and gave the names of the teachers in their centers.

The research sites that were finally chosen consisted of seven programs in Amherst, one in Leverett and one in Florence. Three

programs were University of Massachusetts affiliated and two programs were college affiliated, while the four remaining programs were private. The age range of the children in these centers was from three to five years. Each program had an average of 22 children with a ratio of one adult teacher to eight children. The teachers in each program were aided by undergraduate students who were either doing work study, independent study, pre-practicum for teacher certification, or fulfilling Early Childhood Education course requirements.

Sample

From these nine programs, 30 teachers of three to five year old children, volunteered to participate in the present study. Teachers who volunteered had the choice of withdrawing from the study when informed of the purpose of the observations. The subjects were assured that the collected data would remain anonymous, and that the results of the Test and the Checklist would be reported as group data. If any individual data were reported, it would remain anonymous.

Upon completion of this study, each participating teacher will receive relevant conclusions drawn by the researcher concerning the teaching environment in their respective classrooms.

Research Instrument

This study employed two research instruments. One: an attitude assessment called the "Attitude Toward Creativity Test" (Appendix A)

developed and tested by Maryam Tabatabaean for her dissertation research in 1981 at the University of Oregon. The purpose of her study was to construct and conduct an attitude measurement test that would effectively discriminate between degrees of teachers' negative and positive attitudes towards creativity.

The construction of her attitude test involved the following steps: First, 114 statements, each presenting a different attitude toward creativity, were gathered from books, periodicals and the verbal statements of art education students and faculty members at the University of Oregon. Ten doctoral students from the departments of art education, linguistics, educational psychology and English at the University of Oregon were asked to rate these statements on a 10-point scale that ranged from unfavorable towards creativity through neutral to favorable. These statements were carefully edited into parallel form and reduced to 90 in number. Second, 127 volunteer graduate and undergraduate students from the departments of educational psychology, linguistics, education, and psychology at the same University, served as judges and rated these 90 statements on a 7-point scale that ranged from unfavorable through neutral to favorable.

The response frequency, cumulative proportion, scale value and ambiguity value for each of the 90 statements were computed using two methods - Hofmann's (1976) method of equal-appearing intervals and a Statistical Analysis System using univariate procedure. Both methods were used as a cross check on each other. The scale value presented

the place of each statement on the response continuum (7-point scale); and the ambiquity value indicated the degree of consensus among the judges. The formula used to get the scale and ambiguity values of each statement was adopted from Edwards (1957).

Tabatabean (1981) used three guidelines for the final selection from the 90 statements for inclusion in her "Attitude toward Creativity Test". The first guideline was the scale value, that is, the median value assigned to each statement by the 127 judges through their placement of that item on the response continuum (7-point scale). The scale value of each statement was specified by a number that fell between the lowest and highest values of the scale (1 through 7). Scale values between 1 and 3 represented unfavorable statements, 4 represented neutral statements, and scale values between 5 and 7 indicated favorable statements. Those statements with scale values that spread evenly on the response continuum (7-point scale) were selected. Five statements from each interval on this 1 through 7 point scale were selected. Thus, with six intervals on this 7-point scale, the test comprised of 30 statements.

The second guideline was ambiguity value, that is, values that indicate the degree of consensus among the 127 judges. Statements that had lower calculated ambiguity values indicating a strong consensus among the 127 judges were chosen.

The third guideline was relevance of the statements. Out of the 90 statements those that were most related to the purpose of

Tabatabaean's study (a test that would effectively discriminate between degrees of teacher's negative and positive attitude towards creativity) and those that met the general criteria as an attitudinal statement were selected. Although criteria were based on those of Thurstone and Chave (1929) and Wang (1932), Tabatabaean used no formal criteria in this process. Instead, she wrote each of the 90 statements selected by the 127 judges on a separate card with its scale and ambiguity values on it. Each card was then grouped into the following categories: creativity and human growth, creativity and society, creativity as an objective of education, creativity as a trait, creativity and discipline, creativity as a concept, and creativity and students. Statements within the same category having identical scale values were eliminated.

Finally, the 30 statements that spread evenly on the response continuum, had low ambiguity values and were most relevant to the purpose of her study, were chosen by Tabatabaean for inclusion in the final form of her "Attitude toward Creativityt Test".

In order to be able to answer the secondary research question of the present study, a Personal Data Form asking for such background information as teachers' age, sex, educational degree, certification, and teaching experience was added at the end of this Test. The attitude Test and this Form were completed by each of the 30 participating teachers.

The second research instrument employed by this study was a

"Behavior Observation Checklist" (Appendix B) developed by the present researcher and used for the live observations in the classrooms. The Checklist consists of 31 behaviors listed under four-sub categories regarding teachers' instructional behaviors in the classrooms. Each behavior item is thought to facilitate the emergence and expression of creativity in young children. These statements are based on individual creative traits identified by Guilford (1977), Myers & Torrance (1961), Osborn (1953), and Shallcross (1981).

In developing the "Behavior Observation Checklist" this researcher went through the following stages: An initial checklist consisting of 89 statements was developed first. This list was edited by five volunteer graduate students enrolled in a seminar in Advcanced Creative Education at the University of Massachusetts, who were asked to reduce length of the checklist by eliminating repetitious statements as well as those that described unobservable instructional behaviors. The checklist was thus reduced to 66 statements under four categories of which 42 behaviors "foster" creativity and 24 behaviors "hinder" creativity in children (Appendix C). This preliminary version of the checklist was presented to another group of 26 graduate students for construct (face) validity testing. These students, enrolled in courses in Creative Education, were invited to serve as judges because of their interest in Creative Behavior. Ten of these students were enrolled in a course entitled "Synergy:Creativity in curriculum design", 11 students in "Advanced Creative Studies", and

five students in "Nature of Creativity". These courses were offered at the University of Massachusetts.

Written instructions given to these 26 judges were: "In your opinion, how important is each behavior in terms of its allowing for creativity and creative expression in young children? Consider each statement independently of the others. Each behavior statement is followed by a 7-point scale. The seven numbers should be thought of as a continuum, with the numbers 1-3 representing "umimportant", 4 representing "neutral" and 5-7 representing "important". Please indicate by circling the number that best reflects your opinion, how important the behavior is in fostering creativity and creative expression in an instructional setting".

Behavior statements that received the scale value of 5 and above on the 7-point scale and above 70% positive reponse by the 26 judges were chosen from the preliminary list of 66 statements (Appendix D). Using the above mentioned criteria of scale value and 70% response, this preliminary list was reduced to 35 statements (Appendix E).

Another group of five volunteer judges enrolled in a graduate seminar on Advanced Creative Education grouped this list of 35 statements in five categories namely, (1)interaction with children/questioning style; (2)presentation/discussion style; (3)environmental conditions-physical; (4)environmental conditions-mental; and (5)environmental conditions-emotional. These five sub-categories were different from the four categories listed in

the preliminary version of the checklist. This was done mainly to ease the observation of behaviors that are part of a unified system of behavior. The checklist at this stage in its development was field-tested, resulting in some changes in the format of the Checklist. A discussion of these changes follows shortly.

The final version of the "Behavior Observation Checklist" consisted of 31 statements listed under four sub-categories, namely sub-categories 1,2,4 and 5 listed above (Appendix B). Sub-category 3 (the four physical environmental conditions) was separted from the original list of behavior statements, as these conditions were observed only once during the observation session.

Validity

Face validity was the process used in the various stages in the development of the Behavior Observation Checklist. Face validity is determined by a group of judges, who read or look at a measuring technique and decide whether, in their opinion, it measures what it is supposed to. Evaluating face validity is a subjective process, as the evaluation is greatly dependent on the composition of the group of judges. A validity figure is calculated by computing the amount of agreement between the judges. The higher the percent who say it measures what it claims to measure, the higher the face validity (Kidder, 1981).

There were three stages in the determination of face validity by a group of judges. The first stage was the evaluation of the initial

checklist of 89 statements by five judges (graduate students); resulting in the reduction of the initial checklist to 66 statements. The second was the evaluation of the revised checklist by 26 judges (graduate students) when this checklist was reduced to 35 statements. The third and final stage was the evaluation of 35 statements by five judges (graduate students) who categorized these statements into five categories. Face validity was computed to be 5.00 on the 7-point scale and 70% response by the judges.

Statements on the revised checklist that received a scale value of 5.00 and above on the 7-point scale and 70% response by the 26 judges were chosen for inclusion in the final version of the "Behavior Observation Checklist" to be used for the live observation sessions in the classrooms.

Observation reliability

A session for establishing observation reliability was held prior to the actual collection of data. The procedure for establishing reliability of the researcher's identification and tallying of the instructional behaviors in the classroom was as follows:

The researcher with two external judges who were experienced Early Childhood Education teachers and were familiar with fostering creative behavior in young children, viewed a 30-minute video tape of a teacher (other than a participant teacher) while teaching in her classroom. Individually, each of the three judges, using the Event Sampling Procedure (Goodwin & Driscoll, 1980), identified the

teacher's instructional behavior and tallied each evidenced behavior under its relevant statement in the provided Behavior Observation Checklist (final version). The Event Sampling Procedure involves studying preselected events, which the observer notes whenever the event occurs during a given time period.

This session continued until full agreement was reached between the three judges, for each of the 35 statements in the "Behavior Observation Checklist". This observation reliability proceedure was conducted in order to eliminate, as much as humanly possible, the bias of the researcher during the actual observation sessions of the participating teachers' instructional behaviors in their respective classrooms.

Field Testing

The final Checklist was field tested by the researcher in three classrooms, where four teachers (other than the participating teachers) were individually observed. The purpose of these sessions was to check for possible problems in the format of the Checklist and the observation recording procedure. Using the Event Sampling Procedure, the teachers were observed for two separate sessions of one-half hour each. At this time the layout of the checklist was modified to ensure a more efficient way of recording the teacher's observed instructional behaviors for the actual data collection.

Environmental conditions-physical(sub-category 3 with the four conditions) was removed from the main body of the Checklist on page 2

and added to the first page because this condition was observed only once during each session. Thus the final Checklist had only four sub-categories consisting of 31 behavior statements.

Scoring of the Attitude Test and the Behavior Checklist

As instructed by Tabatabaean (1981), the attitude score of each teacher was derived by computing the mean score from the scale value of all the statements marked by the individual. The mean or attitude score of each teacher was derived by using the following calculation:

$$\text{Test Score} = \frac{\text{Sum of Scale Scores}}{\text{number of items checked}}$$

For example, teacher 01 had 60.2 as a sum of scale score and number of items checked was 11 out of the 30 statements in the Test. Therefore, the mean score or attitude score for this teacher was 5.47 (60.2/11). Any mean score that fell below 3 on the 7-point scale was interpreted as a negative attitude, a score of 4 was interpreted as a neutral attitude, and a score of 5 and above was interpreted as a positive attitude. Appendix I lists the mean score of all the 30 teachers and their negative, neutral or positive attitude. The scale value of each of the 30 statements in the attitude Test as calculated by Tabatabaean is shown in paranthesis besides each statement in Appendix A. The same scale values were used by the present researcher in calculating the sum of scale scores for each of the 30 teachers.

As each teacher evidenced a behavior during the live observation it was recorded by the researcher with a tally mark besides the

relevant statement in the behavior Checklist. At the end of the two observation sessions, these tally marks were counted separately for each of the four behavior sub-categories and then totalled individually for each teacher. Next, one total for all 30 teachers in each of the four sub-categories and its individual statements were counted. Finally, one grand total for all 31 statements, for all 30 teachers were counted.

Data Collection

Letters explaining the general nature of the research and asking for permission to use their teaching staff as participants were sent to the directors of the selected sample schools (Appendix F). Once permission was granted, the individual teachers were approached and invited to volunteer to participate in this study (Appendix G). They were informed in writing about the duration and general purpose of the research, that is, to observe the interaction between teachers and the children as well as the instructional environment in the educational setting. The specific purpose - to observe the degree to which their assessed attitude towards creativity is reflected in their instructional behaviors - was not communicated to them.

Having obtained the teacher's written consent, times for the live observations of the instructional behaviors in their respective classrooms were arranged and carried out. Prior to the actual observation sessions, a visit was made to each new classroom in order to habituate the children to the researcher's presence in the room.

The Checklist developed by the present researcher was used in the actual observation sessions.

Each of the 30 participating teachers was observed twice for two 45-minute sessions during the data collection period. The two sessions were approximately two weeks apart from each other. The teachers were informed of the week but not the exact date the observation sessions were to be held.

The total number of observation hours for each participating teacher was one-and-a-half hours.

Upon completion of the observation sessions, the researcher distributed the "Attitude Toward Creativity Test" and the Personal Data Form to each teacher with a request to complete it as accurately as possible. The Test and the Form were collected by the researcher.

Data Analysis

To answer the primary question, the relationship between the two dependent variables (expressed attitude towards creativity and instructional behaviors in the classroom) was ascertained by means of the Pearson product-moment correlation coefficient test.

To answer the secondary research questions, Analysis of Variance Test was conducted to determine whether or not the (independent) intervening variables of age, sex, educational background, certification, and years of teaching experience had any independent significant effect on teachers' attitude toward creativity or their instructional behaviors.

The level of significance to accept or reject the hypothesis was set at $p=<.05$ level. All tests of significance were two-tailed.

CHAPTER IV

RESULTS

Introduction

The purpose of the present study was to compare teachers' expressed attitude towards creativity with their actual instructional behaviors in the classroom. The expressed attitude was assessed through an "Attitude toward Creativity Test" developed by Tabatabaean (1981). The actual instructional behaviors were assessed through a "Behavior Observation Checklist" developed by the present researcher.

Prior to the coding of the data, some decisions were made to facilitate efficient coding of the raw data. The first decision was to combine the two observation sessions since it was the total time of the sessions which was important for this study, not the number of sessions. The second decision was to categorize all the activities that occurred during the observation sessions into eight curricular activity categories, namely art, table activities, circle/group time, project, manipulatives, games, miscellaneous, and conflict resolution (an important aspect in the socialization process of young children). This grouping was done because many of the activities set up by the teachers in their classroom during the live observation sessions were similar in nature (Appendix H). Finally, the behavior frequency score

of the instructional behaviors was totaled for each teacher for the four behavior sub-categories, namely (1) interaction with children/questioning style; (2) presentation/discussion style; (3) environmental conditions - mental; and (4) environmental conditions - emotional. The behavior frequency scores represent the actual number of times that particular teacher evidenced a certain behavior which was then tallied by the observer besides the relevant behavior statement in the behavior Checklist.

Prior to the actual analysis of the raw data, three more decisions were made. One was to collapse the three age range (as originally classified in the Checklist) of the teachers into two age group, that is, age range 30-39 years and 40+ years were collapsed into one age range (30+ years) since only one teacher fell in the 40+ age range. Therefore, the actual analysis was based on a comparison of teachers who were 20-29 years old and those 30+ years or older. The second decision had to do with the classification of the teachers' educational background. Teachers' degrees were categorized according to whether they had a college degree or not, and if they did, whether they were degrees in Early Childhood Education or in other fields. The resulting categorizations were 1 = High School Diploma and Associate degree in Early Childhood Education, 2 = BA and BS in subjects other than Early Childhood Education, and 3 = BA, BS and MA in Early Childhood Education.

Raw test scores for each teacher were converted to their mean

score as instructed by Tabatabaean (1981). This mean score represents the actual attitude score of the participants. This actual score presents their positive or negative attitude towards creativity.

According to Tabatabaean (1981) the 7-point scale evaluated the positive or negative attitudes of the participants. Scores below 4.00 on the 7-point scale were indicative of a negative attitude, scores of 4.00 and and 4.99 were considered a neutral attitude, and scores above 5.00 were considered to indicate a positive attitude towards creativity.

Statistical Description of the Data

The background information of the participating teachers' was the following: There were 12 teachers in age range 20-29 years, 17 teachers in age range 30-39 years, and one teacher in the 40+ years age range. Twenty four were female and six were male teachers. One teacher had a High School diploma only, 13 had BA or BS in a field other than Early Childhood Education, and two had MA degrees in something other than Early Childhood Education. Out of the remaining 14 teachers, five had Associates degree, six had BA or BS, and three had MA degrees in Early Childhood Education. Eighteen of the teachers were certified as elementary school teachers by the State of Massachusetts while 12 teachers were not. Ten teachers had under 4 years of teaching experience, 15 had between 5-9 years, and the

remaining five had over 10 years of teaching experience. Twenty eight of the teachers were employed full-time while the remaining two worked part-time. In this sample, there were 11 Head Teachers, 17 Cooperating Teachers, 1 Assistant, and 1 Substitute Teacher. The six teachers without a college degree were taking courses at the University of Massachusetts towards their undergraduate degree at the time of data collection.

The raw data regarding the attitude and instructional behaviors of these 30 participating teachers is presented in Appendix I. The figures listed there represent the actual number of times certain behaviors were evidenced by the teachers during the two observation sessions as well as their scores on the attitude Test.

As mentioned earlier, the behaviors measured by the Checklist were categorized into eight curricular activity categories; and that the 31 behavior statements in the Behavior Observation Checklist were grouped into four behavior sub-categories. The raw behavior scores for all 30 teachers, for the four behavior sub-categories under the eight activity categories is also presented in Appendix I.

The range of the individual teachers' actual behavior frequency score was between 107 and 286. The mean for teachers' behavior score was 185.8, meaning that on the average each teacher evidenced behavior that many number of times from the range of behaviors listed in the Checklist. Fifty-three percent of the teachers (n=16) evidenced a behavior score below the group mean and forty-six percent (n=14)

evidenced a behavior score above the group mean. Summary of the actual behavior scores for all 30 teachers in the four behavior sub-categories, and some of the relevant behaviors from each sub-category is presented in Figure 1.

The range in the teachers' expressed attitude score was from 4.38 (indicating a neutral attitude towards creativity) to 5.93 (indicating a positive attitude towards creativity). The group mean for the teachers' attitude score was 5.2 on the 7-point scale indicating that these teachers as a group evidenced a positive attitude towards creativity. Seventy-three percent of the teachers (n=22) evidenced a positive attitude towards creativity, that is, they scored between 5.00 to 7.00 on the 7-point attitude toward creativity scale; and twenty-three percent (n=8) evidenced a neutral attitude towards creativity, that is, they scored between 1.00 and 4.99 on the 7-point scale. None of the teachers were assessed as having a negative atttiude towards creativity, that is, none scored below 3.00 on the 7-point scale. Even though the majority of the teachers evidenced a positive attitude, none of their scores were above 6.00 on the 7-point scale. Most of the scores were clustered between 5.00 and 5.93 on the above scale indicating a positive attitude in the lower range on the 7-point scale.

A scatter-gram of the teachers' attitude score and their instructional behaviors is presented in Figure 2. The attitude and behavior scores of most of the teachers appear to be clustered

F I G U R E 1

The observed behavior frequency scores for all 30 teachers in descending order are (in summary):

Four Behavior Categories:	Scores
1. Interaction with children/questioning style	1990
3. Environmental conditions/mental	1454
4. Environmental conditions/emotional	1321
2. Presentation/discussion style	810

Statements in sub-category 1:

1. "gives positive feedback"	576
2. "makes eye contact with the child"	424
3. "rephrases question"	24

Sub-category 2:

1. "allows time needed for task completion"	188
2. "uses more than one way of presenting materials"	38

Sub-category 3:

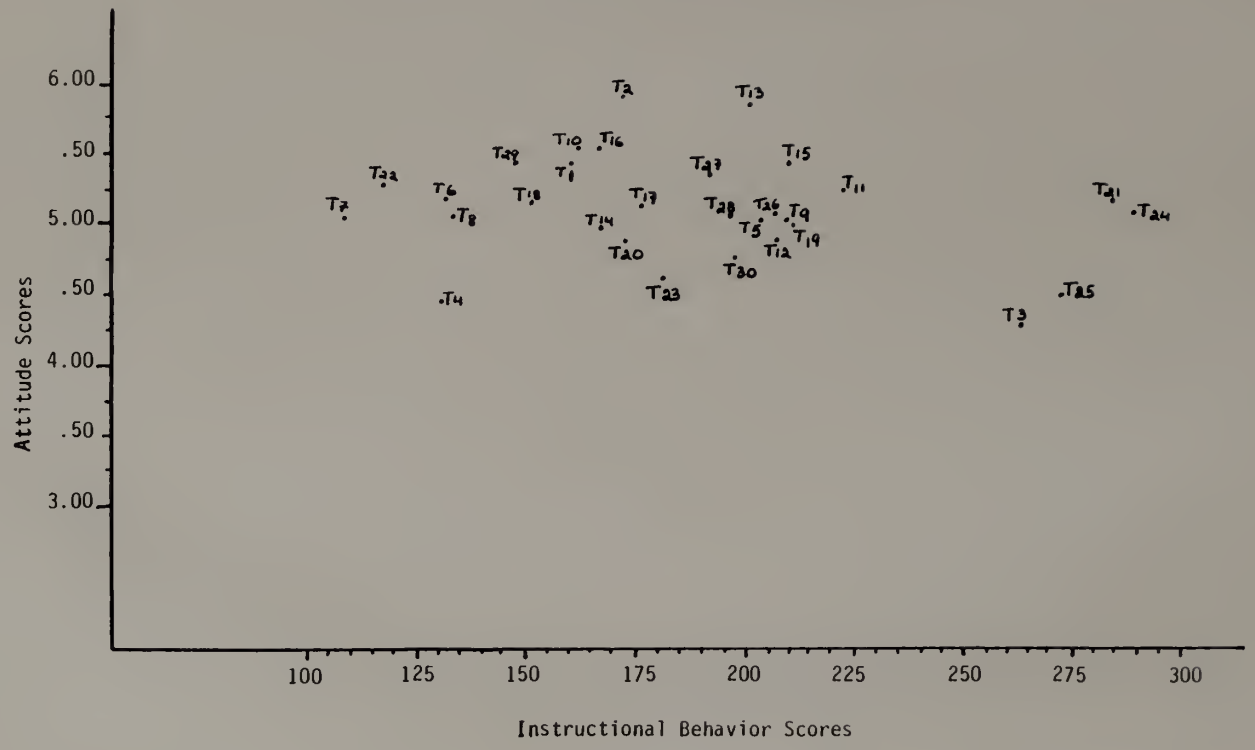
1. "allows free thinking without imposing own ideas"	406
2. "allows children to explore,experiment,solve problems"	309
3. "allows for child's learning preference"	49

Sub-category 4:

1. "allows children to be self-reliant,take initiatives"	398
2. "establishes ground rules for child's security"	315
3. "allows children to express feelings"	64

FIGURE 2

Teachers' Attitude and Instructional Behaviors



Note: 3.99 and below indicates a negative attitude; 4.00-4.99 indicates a neutral attitude
5.00 and above indicates a positive attitude

(Group A - T12,17,19,21,and 24)

together with the exception of four teachers whose scores form a smaller cluster at the higher end of the behavior score axis and at the middle of the attitude score axis.

Comparison of individual teachers' attitude scores with their actual instructional behavior scores showed that the teacher who scored the highest (5.93) on the attitude Test had a behavior frequency score of 170 (below the group mean of 185.8). The teacher with the highest behavior frequency score (286) had a positive attitude score of 5.19 which was on the lower end of the positive side on the attitude scale. The next highest behavior score was 270 with a neutral attitude score of 4.52. The lowest attitude score of 4.38 had a behavior score of 263 (third highest behavior score). Out of the 14 teachers with behavior frequency scores above the group mean, four were assessed as having neutral attitudes, inclusive of the lowest attitude score. Out of the 16 teachers with instructional behavior scores below the group mean, three were assessed as having a neutral attitude. The other teachers were assessed as having a positive attitude.

All nine (9) preschools observed fulfilled three out of the four physical environmental conditions that are considered necessary (Shallcross, 1981) for an environment appropriate for fostering creative growth. The four conditions are: Does the teacher (1) provide space for group work; (2) provide space for individual work; (3) allow child to have private space; and (4) allow for easy access

to materials. Not all schools had provision for condition 3. In fact, only three preschools (33.3%) had provision for such a space.

Analysis of data yielded the following means and standard deviations for the attitude score, instructional behavior score, and teachers' background information which are presented in Table 1. The mean attitude score was 5.2 on the 7-point scale and the mean behavior score was 185.8 for all 30 teachers. In terms of the entire sample, instructional behavior sub-category 1 (interaction with children/questioning style) had the highest behavior score ($\bar{X}$=66.3) of all four behavior sub-categories.

An analysis of the relationship between teachers' behavior score and their age, sex, educational degree, certification, and teaching experience revealed some interesting relationships. Teachers with less than 4 years of teaching experience had the highest behavior score ($\bar{X}$=202.1). The second highest behavior score ($\bar{X}$=199.5) was for teachers with BA & MA degrees in Early Childhood Education. The third highest behavior score ($\bar{X}$=191.0) was for teachers who had over 10 years of teaching experience. Younger teachers (those 20-29 years) had a higher behavior score ($\bar{X}$=190.4) than teachers 30+ years whose score was ($\bar{X}$=182.8). Female teachers had a higher behavior score ($\bar{X}$=188.1) than male teachers whose behavior score was ($\bar{X}$=176.7). More experienced teachers, those with over 10 years of experience had a higher behavior score ($\bar{X}$=191.0) than those teachers with less experience (5-9 years, with a score of $\bar{X}$=173.3). When teachers were

TABLE 1

Means and Standard Deviations for Teachers' Attitude and Instructional Behaviors by Background Information

Teachers' Demographic Data		N	Attitude	Instructional Behaviors Categories 1	2	3	4	Total Behavior
Age	20-29	12	5.2(.45)	67.9(19.8)	27.8(13.6)	48.4(16.5)	46.3(15.9)	190.4(58.6)
	30+	18	5.1(.26)	65.3(14.2)	26.5(13.2)	48.5(11.8)	42.5(10.4)	182.8(37.7)
Sex	Female	24	5.2(.29)	65.9(14.0)	27.5(14.0)	48.1(14.1)	45.8(12.8)	188.1(45.8)
	Male	6	5.2(.53)	68.0(25.4)	15.9(9.5)	46.5(11.9)	37.2(10.9)	176.7(51.9)
Degree	HS/Assoc-ECE	6	5.1(.36)	61.3(14.4)	28.7(18.4)	48.0(12.4)	40.5(16.4)	178.5(55.8)
	BA,BS	13	5.2(.32)	65.1(16.1)	25.5(10.5)	44.6(12.2)	42.5(12.7)	177.9(42.5)
	BA,MA-ECE	11	5.2(.38)	70.5(18.1)	27.8(13.9)	53.2(15.3)	47.8(10.9)	199.5(46.9)
Certified	Yes	19	5.1(.29)	66.6(18.7)	28.6(12.7)	47.6(13.5)	44.1(12.5)	186.8(49.3)
	No	11	5.3(.41)	65.8(12.3)	24.3(14.1)	50.0(14.2)	44.0(13.8)	184.1(43.2)
Experience in years	0-4	10	5.2(.45)	70.9(18.7)	29.6(15.2)	53.3(14.8)	48.3(16.6)	202.1(57.6)
	5-9	15	5.2(.26)	65.1(15.9)	22.4(6.9)	45.2(11.0)	40.5(8.2)	173.3(30.3)
	10+	5	5.1(.38)	61.0(12.9)	35.6(19.6)	48.4(17.8)	46.0(15.3)	191.0(60.3)
Entire sample		30	5.2(.34)	66.3(16.4)	27.0(13.2)	48.5(13.6)	44.0(12.8)	185.8(46.4)

Note: Category 1=Interaction with children/Questioning style
2=Presentation/Discussion style
3=Environmental conditions - mental
4=Environmental conditions - emotional

compared on the basis of their educational background, it was found that teachers with more education had a higher behavior score ($\bar{X}$=199.5) than those with High School and Associate in Early Childhood Education (a score of $\bar{X}$=178.5). This later group had a higher behavior score than those with general BA or BS (a score of $\bar{X}$=177.9). Teachers with elementary certification had a higher behavior score ($\bar{X}$=186.8) than those without certification.

Analysis of the Data

The primary question concerns whether or not there was a significant relationship between teachers' attitude towards creativity and their instructional behaviors in the classroom.

A Pearson product-moment correlation coefficient was performed between the attitude scores and instructional behavior scores. The results are presented in Table 2.

Analysis of data indicated that all four behavior sub-category scores correlated negatively with the attitude scores. None of these correlations were significant except for sub-category 2 (presentation/discussion style) which was statistically significant at $r=-.44$, $p=<.05$ level. This negative relationship indicates those teachers who according to Test scores had a positive attitude did not exhibit more of those behaviors in the classroom that are considered to foster creative behavior in young children. The four behavior

TABLE 2

Correlation Matrix of Teachers' Creative Attitude and Instructional Behaviors by Background Information

	Attitue	Behavior Category				Background Information				
	Score	1	2	3	4	Behavior	Age	Sex	Degree	Cert.	Exp.
Attitude Score	1.00	-.23	-.44*	-.12	-.13	-.28	-.03	-.01	.10	-.23	-.13
Category 1		1.00	.50**	.54**	.50**	.79**	-.08	.05	.22	.02	-.22
Category 2			1.00	.59**	.63**	.81**	-.05	-.08	-.00	.16	.06
Category 3				1.00	.79**	.87**	.00	-.07	.19	-.09	-.18
Category 4					1.00	.86**	-.15	-.27	.23	.00	-.13
Total Behavior						1.00	-.08	-.10	.19	.03	-.15
Teachers' Age							1.00	-.27	-.09	-.06	.50*
Sex								1.00	-.34	-.14	-.36*
Degree									1.00	-.02	.12
Certified										1.00	.02
Experience											1.00

Note: Correlations are Pearson product-moment correlation coefficients

All tests of Significance are two-tailed

*=p <.05, **=p <.01

sub-categories 1 (interaction with children/questioning style), sub-category 2 (presentation/discussion style), sub-category 3 (environmental conditions-mental), and sub-category 4 (environment conditions-emotional) were correlated significantly with one another at the p= <.05 level. In other words, there was a negative non-significant relationship between attitude and instructional behaviors.

The secondary question concerns whether or not there was a relationship between teachers' age, sex, educational degree, certification, teaching experience, their attitude towards creativity and their instructional behaviors.

Analysis of Variance was performed on the teachers' attitude score and their instructional behaviors, using the background variables as independent variables. The results are presented in Table 3.

Analysis of Variance showed no systematic relationship between the teachers' background variables and their attitude and instructional behaviors. In other words, none of the background variables were related to teachers' attitude or to their instructional behaviors; meaning that teachers' background variables had no effect on their attitude and instructional behaviors.

When background variables were intercorrelated with each other, on the basis of one statistical procedure-the Pearson product-moment correlation coefficient test (Table 2) most of the background

TABLE 3

Analysis of Variance Results

Teachers' Demographic Data	DF	Attitude	F - Value Category 1	2	3	4	Total Behavior
Age	28,1	.03	.18	.06	.00	.64	.19
Sex	28,1	.00	.07	.17	.15	2.26	.29
Degree	27,2	.34	.67	.14	1.24	.80	.74
Certified	28,1	1.56	.02	.74	.22	.00	.02
Experience	27,2	.29	.68	2.38	1.06	1.19	1.21

Note: Category 1=Interaction with children/Questioning Style
2=Presentation/Discussion style
3=Environmental conditions - mental
4=Environmental conditions - emotional

All tests of Significance are two-tailed.

variables were non-significantly negatively related with teachers' attitude and teachers' instructional behaviors, except that age (r=.50) and sex (r=-.36) were statistically correlated with teachers' experience at p= <.05 level of significance. But on the basis of another statistical procedure-the Analysis of Variance Test (Table 3) none of the background variables were found to be related significantly to attitude, instructional behaviors or to any of the background variables.

There was a broad range in the teachers' educational background. Degrees ranged from High School diploma (n=1), Associate degree in Early Childhood Education (n=5), BA,BS (n=13) and MA (n=2) in subjects other than Early Childhood Education, to BA,BS (n=6), MA (n=3) in Early Childhood Education. Recognizing this disparity in training among the 30 teachers, further analysis was conducted in order to check whether groupings according to differences in educational attainment would clarify the relationship between teachers' attitude and instructional behaviors. Subjects were classified, therefore, according to three degree groups: (1) teachers with and without degrees in Early Childhood Education; (2) teachers with bachelors degrees in Early Childhood Education and in other fields ; and (3) teachers with High School diploma and Associates degrees in Early Childhood Education. Teachers with degrees that did not fall into these three groups were not used for this analysis.

A test of significance was performed between teachers' degrees,

their attitude, instructional behavior scores, and the remaining four background variables. The results are presented in Table 4. None of the comparisons between the three groups of teachers' degrees with their attitude scores, instructional behavior scores and their background variables showed statistically significant relationships.

Besides the t-test, a Pearson product-moment correlation coefficient was also performed on the three degree groups with teachers' attitude scores, instructional behavior scores and the four background variables. The results are presented in Table 5. Analysis of data showed that having a degree in Early Childhood Education was negatively correlated with attitude scores and positively correlated with instructional behaviors, but none of these correlations were statistically significant. Teachers with undergraduate degrees followed a trend similar to the above group. Teachers with High School diploma and Associate degrees reversed this trend, meaning that there was a correlation between this degree and teachers' attitude but not with their instructional behavior score. Most of the background variables were non-significantly negatively correlated with the three degree groups.

There was a possibility that using the total instructional behavior scores of the 30 teachers for the four behavior sub-categories rather than the scores for each of the 31 statements in the Checklist, could be obscuring possible relationships between the individual behaviors; also that some of these behaviors were more

TABLE 4

T-test comparison for mean of teachers' attitude, instuctional behavior scores and background variables in the three degree groups

Degree	N	Attitude	t	df	t-Prob.
No ECE (1)	16	5.20(.34)	.76	27.02	.45
with ECE	14	5.10(.35)			
BA,BS-Gen (2)	13	5.19(.32)	.95	8.10	.37
BA,BS-ECE	6	5.01(.40)			
HS Diploma (3)	1	4.77(0)	-2.05	4.00	.11
Assoc-ECE	5	5.11(.37)			
		Total Instructional Behaviors			
1	16	177.75(39.0)	-1.00	23.47	.33
	14	195.05(53.0)			
2	13	144.69(42.5)	- .95	9.08	.34
	6	198.83(46.2)			
3	1	191.00(0)	.54	4.00	.62
	5	176.00(62.0)			

Table 4 cont.

Degree	N	Behavior Category 1	t	df	t-Prob.
1	16	64.50(14.6)	- .64	24.65	.53
	14	68.42(18.5)			
2	13	65.07(16.0)	-1.07	8.11	.32
	6	75.00(20.0)			
3	1	69.00(0)	1.33	4.00	.26
	5	59.80(15.5)			
		Behavior Category 2			
1	16	24.00(10.9)	-1.32	23.39	.20
	14	30.43(15.1)			
2	13	25.54(10.5)	1.80	12.46	.86
	6	26.33(8.2)			
3	1	31.00(0)	.30	4.00	78
	5	28.20(20.5)			

Table 4 cont

Degree	N	Behavior Category 3	t	df	t-Prob.
1	16	46.56(12.1)	- .80	24.72	.43
	14	50.64(15.3)			
2	13	44.62(12.2)	.87	8.05	.41
	6	50.83(15.3)			
3	1	57.00(0)	1.86	4.00	.41
	5	46.20(12.9)			
		Behavior Category 4			
1	16	42.69(12.5)	- .61	26.87	.55
	14	45.57(13.4)			
2	13	42.46(12.7)	- .76	11.98	.46
	6	46.67(10.3)			
3	1	34.00(0)	- .97	4.00	.39
	5	41.80(18.0)			

Table 4 cont

Degree	N	Age	t	df	t-Prob.
1	16	1.63(.50)	.29	27.26	.76
	14	1.57(.51)			
2	13	1.61(.51)	.44	9.13	.67
	6	1.50(.55)			
3	1	2.00(0)	1.63	4.00	.18
	5	1.60(.55)			
		Sex			
1	16	1.18(.40)	- .18	27.00	.86
	14	1.21(.43)			
2	13	1.15(.38)	- .07	9.09	.95
	6	1.16(.41)			
3	1	2.00(0)	2.45	4.00	.07
	5	1.40(.55)			

Table 4 cont

Degree	N	Certif.	t	df	t-Prob.
1	16	1.75(.45)	1.40	25.91	.17
	14	1.50(.52)			
2	13	1.77(.44)	1.79	8.49	.11
	6	1.33(.52)			
3	1	2.00(0)	2.45	4.00	.07
	5	1.40(.55)			
		Experience			
1	116	1.75(.68)	- .69	26.88	.50
	14	1.93(.73)			
2	13	1.85(.69)	.05	15.57	.96
	6	1.83(.45)			
3	1	1.00(0)	-2.14	4.00	.10
	5	1.80(.84)			

TABLE 5

Correlation matrix of Early Childhood Education degree (Yes/No) with teachers attitude scores, instructional behaviors and background information

Groups	N	Attitude	Behavior Category 1	2	3	4	Total Behavior	Age	Sex	Certif	Exp.
Entire Sample	30	- .14	.12	.25	.15	.11	.19	-.05	.03	-.26	.13
Bachelors Degree only	19	-.24	.27	.04	.23	.17	.23	-.11	.06	-.42	-.01
H.S. & Assoc. Degree only	6	.39	-.26	-.06	-.36	.19	-.11	-.32	-.45	-.45	.40

readily evidenced and therefore observed than others, that some behaviors were more readily related to attitude than others, and that some involved more objective managerial kinds of behavior while others were subjective philosophical kinds of behavior. To take full advantage of the instructional behavior scores, a Pearson product-moment correlation coefficient analysis was performed on the 31 behavior statements with attitude score, total instructional behavior scores and the five background variables. The results are presented in Table 6.

Only three of the 31 behavior statements were significantly negatively correlated with teachers' attitude. Two statements were from behavior sub-category 2 - "feel comfortable when challenged; allow as much time as needed for task to be completed" and one from behavior sub-category 3 - "allow children to solve problems in unique ways".

Nineteen out of the 31 behavior statements were significantly correlated to the teachers' instructional behaviors. They included statements in each of the four behavior sub-categories. Three background variables - age (r=-.36), sex (r=.35) and teaching experience (r=-.36) - were all statistically correlated to one of the statements in behavior sub-category 1 - "give time (10 sec) for the child to respond after asking question". Sex (r=-.42) was negatively correlated to another statement in the same behavior sub-category - "give postive feedback". Teaching experience (r=-.36) was also

TABLE 6

Correlation matrix for the 31 behavior statements in the Checklist by attitude scores, instructional behaviors and background information

Behavior Sub-category 1	Attitude	Behaviors	Age	Sex	Degree	Certif	Exp.
Make eye contant with the child who is speaking	-.13	.49*	-.02	.31	.01	.17	-.13
give time (10 sec.)for the child to respond after asking question	-.11	.52*	-.36*	.35*	.06	.25	-.36*
rephrases the question if no response occures	.03	.27	-.02	.34	.00	.04	-.04
accept response even if unrelated to topic	.02	.28	.10	-.14	.19	.05	.03
pay attention to both bright and slow children	-.14	.60*	.03	-.05	.25	-.11	-.29
give positive feedback	-.29	.35	.11	-.42*	.08	-.20	.19
allow physical contact between self and child	.05	.14	-.21	.32	-.11	-.00	-.26
respond positively to childrens' humor	-.22	.47*	.01	-.29	.28	.03	.11
allow non-conforming behavior within limits	.07	.08	-.03	.07	.12	-.16	-.01
Total	-.23	.79*	-.08	.05	.22	.02	-.22

Table 6 cont

Behavior Sub-category 2	Attitude	Behaviors	Age	Sex	Degree	Certif	Exp.
use more than one way of presenting materials	.01	.19	.23	-.09	.05	.04	.07
motivate childrens' learning through cooperation	-.31	.62*	.15	-.25	.11	.12	.34
stress childrens' responsibility towards learning	-.33	.55*	-.15	-.14	-.16	.30	.06
use humor in own teaching style	-.28	.50*	-.02	-.16	.04	.03	.13
feel comfortable when challenged	-.45*	.21	-.20	.30	.32	-.08	-.07
withhold premature judgment or criticism	-.15	.49*	-.34	.02	.28	.15	-.26
him/herself show enthusiasm towards learning	-.07	.36*	.13	-.06	.02	.11	.13
allow as much time as needed for task to be completed	-.37*	.60*	.10	.13	-.36*	-.12	-.06
Total	-.44*	.81*	-.05	-.08	-.00	.16	.06

Table 6 cont

Behavior Sub-category 3	Attitude	Behaviors	Age	Sex	Degree	Certif	Exp.
allow for the unusual and imaginative response	.02	.34	-.11	.24	21	.03	-.36*
allow children to explore,experiment, and solve problems	.02	.56*	-.05	-.01	.03	-.29	-.14
allow children to solve problems in unique ways	-.37*	.35*	.06	.07	.34	.07	.11
allow for childrens' learning preference	-.09	.40*	.07	-.04	-.25	-.00	-.03
allow for childrens' activity preference	.04	.50*	-.01	-.17	.18	.18	-.11
allow free thinking w/o imposing own ideas	-.11	.50*	.16	-.26	.06	-.13	-.07
allow for more than one way of doing tasks	-.31	.44*	-.18	.02	.12	-.01	-.23
allow children to suggest activities and execute them -	-.01	.23	.19	-.13	.24	.13	.21
teacher executes	.18	.24	-.27	.30	-.11	-.12	-.17
Total	-.12	.87*	.00	-.07	.19	-.09	-.18

Table 6 cont

Behavior Sub-category 4	Attitude	Behaviors	Age	Sex	Degree	Certif	Exp.
allow children to express positive and negative emotions	-.01	.14	.15	-.19	.38*	-.12	.18
allow children to share personal experiences	.11	.33	-.22	-.30	.29	.10	-.30
allow children to be self-reliant and take initiatives	-.28	.75*	-.01	-.26	.07	.07	.08
establish ground rules for children's sense of security	.19	.11	-.20	.10	.20	-.23	-.27
allow children to respect self as a resource	-.21	.71*	-.17	-.13	-.08	.15	-.13
allow children to take risks	-.12	.70*	.08	-.20	-.02	.05	.13
Total	-.13	.86*	-.15	-.27	.23	.00	-.13

Note: All tests of significance are two-tailed
*=p <.05 level of significance
1=Interaction with children/questioning style
2=Presentation/discussion style
3=Environmental conditions/mental
4=Environmental conditions/emotional

negatively correlated to a behavior statement in behavior sub-category 3 - "allow for the unusual and imagainative response". Degree (r=-.36) was statistically correlated to behavior statements "allow as much time as needed for task to be completed" in sub-category 2, and positively (r=.38) to "allow children to express both positive and negative emotions" in sub-category 4. Certification was the only background variable that had no statistically significant correlation to any of the behavior statements. All of the above mentioned correlations were significant at the p= <.05 level.

Additional Analysis

Post-hoc analyses were conducted to examine the data further. First the 30 teachers were regrouped. Five teachers whose behaviors appeared to be more along the line of those behaviors that have been identified as behaviors that are conducive to the development of creative expression in young children were placed into a separate group (Group A) for further analysis. The rest of the 25 teachers were placed in Group B. A t-test was used to compare the two groups in terms of teachers' attitude towards creativity and instructional behaviors. The results presented in Table 7, showed a neglible difference in attitude scores (.1) for teachers in Group A and B.The difference (54.5) in behavior scores for both groups was larger, (even though this difference was non-significant) indicated that teachers in

TABLE 7

T-test comparison for mean scores of attitude and instructional behaviors between teachers in Group A and teachers in Group B

Groups	N	Attitude M Sd	t	DF	t-Prob.
A	5	5.1(.15)			
B	25	5.2(.37)	1.2	16.5	.25
		Behavior			
A	5	231.2(50.1)	-2.3	5.1	.07
B	25	176.8(40.8)			

Note: All tests of Significance are two-tailed

Group A evidenced more of those behaviors in the classroom that are considered to foster creative behavior in young children than those teachers in Group B.

A Pearson product-moment correlation coefficient analysis was performed to test the relationship between the attitude score, instructional behaviors and background variables for the five teachers in Group A. The results are presented in Table 8. For these five teachers, attitude score was positively correlated with their instructional behaviors (r=.97). Of the background variables, age was the only one found to be significantly related to teachers' attitude (r=.90) and behavior (r=-.96). Besides being related to attitude and behavior, age (r=.91) was also correlated to experience. All of these correlations were significant at the p= <.05 level.

The second analysis consisted of placing the nine preschools into two groups. Based on the observation of teachers in the classroom, the researcher concluded that the physical environment of some of the observed sites appeared to be better equipped and had an atmosphere considered to be more conducive to creative expression in young children. More specifically, these sites were characterized by the availability of space for group work; space for individual work; a private one-person space; and easy access to materials. Out of these four conditions, a one-person private space is considered most important (Shallcross, 1981). A child needs privacy to explore and experiment with materials, before he/she is ready to share with

TABLE 8

Correlation matrix of the attitude scores, instructional behaviors and background information of the five teachers in Group A

	Attitude	Behavior	Age	Sex	Degree	Certif.	Exp.
Attitude	1.00	.97*	.90*	.99	.40	.99	- .66
Behavior		1.00	- .96*	.99	.28	.99	- .77
Age			1.00	.99	- .17	.99	.91*
Sex				1.00	.90	99	.99
Degree					1.00	.99	0
Certif						1.00	.99
Exp.							1.00

Note: All five teachers were female and were certified.
All tests of significance are two-tailed
*=p <.05 level of significance

others. The creative process requires one to take risks without the fear of being judged and/or criticized by others. This availability of a private one-person space was the criteria used by the researcher to separate these nine preschools into Groups C and D. Group C consisted of three preschools with nine teachers that fulfilled the criteria for a conducive environment, and Group D consisted of six preschools with 21 teachers.

An Analysis of Variance was performed to test whether or not there were significant differences between attitude and instructional behaviors of teachers in the two groups. As can be seen in Table 9, Group C teachers' instructional behaviors differed significantly from that of the teachers' in Group D, but not in their attitude scores.

Since none of the five background variables were significantly related to the dependent variables (teachers' attitude and instructional behaviors) teachers' rank was introduced as another possible intervening variable. Analysis was conducted to determine whether or not this variable influenced teachers' attitude towards creativity and/or their instructional behaviors. For this purpose, teachers' rank as evidenced by observation was classified into three categories, that is, head teachers, cooperating teachers, and assistant teachers including the substitute teacher.

Analysis of Variance was performed between these three categories, teachers' attitude and instructional behaviors. The means and standard deviations are presented in Table 10. Once again, this

TABLE 9

Analysis of Variance results for
teachers in School Group C and D

Groups	N	Tchrs.	Attitude M Sd	df	F-Value
C	3	9	5.1(.30)	28,1	.70
D	6	21	5.2(.40)	28,1	
			Behavior		
C	3	9	212.3(53.7)	28.1	4.74*
D	6	21	174.5(38.9)		

Note: All tests of Significance are two-tailed
*=p <.05 Level of Significance

TABLE 10

Means and Standard Deviations
for teachers' ranks

Teachers' Rank	N	Attitude		Behavior	
		M	Sd	M	Sd
Head Teacher	11	5.1	(.33)	189.7	(57.6)
Cooperating Teacher	17	5.1	(.35)	181.7	(42.1)
Assistant Teacher	2	5.5	(.38)	199.5	(4.2)

Note: All tests of Significance are two-tailed

analysis yielded no statisitically significant relationships between teachers' rank, their attitude and instructional behaviors.

A Pearson's product-moment correlation coefficient was performed to test the nature of the relationship between teachers' attitude towards creativity and their instructional behaviors by rank in all participating schools. The results are presented in Table 11. Majority of the correlations between teachers' attitude, instructional behaviors by rank and school were negative, but not statistically significant. The only statistically significant correlation found was between teachers' instructional behaviors and school ($r = -.38$).

To summarize, in response to the primary question, the analysis of data indicated a negative relationship between teachers' attitude towards creativity and their instructional behaviors in the classroom. In response to the secondary question, the analysis of data indicated that according to one test there was no relationship between teachers' attitude, instructional behaviors and their background variables. But according to another test, most of the background variables were negatively related to attitude, instructional behaviors and to each other.

TABLE 11

Correllation matrix between teachers' attitude score, instructional behaviors, background information by rank in all participating schools

	Rank	School
Attitude Score	.16	.16
Inst. Behavior	-.02	-.38*
Teachers' Age	.05	-.09
Sex	-.03	.33
Degree	-.27	-.15
Certified	-.27	-.20
Experience	-.21	-.16
Position	1.00	-.09
School		1.00

Note: *=p <.05 level of significance

CHAPTER V

DISCUSSION AND CONCLUSION

Summary of Results

The purpose of the study was to examine the nature of the relationship between the teachers' expressed attitude towards creativity and their actual instructional behaviors. Besides attitude and instructional behaviors, information was also collected to discover the nature of the relationship between the teachers' attitude, instructional behaviors and background information.

To assess the nature of the relationship between attitude towards creativity and instructional behaviors, a sample of 30 teachers working in nine (9) preschool or day care centers in the area were selected. The findings will be discussed according to the two research questions generated for this study.

The first research question asked whether or not there was a significant relationship between teachers' expressed attitude towards creativity and their actual instructional behaviors in the classroom. Analysis of data indicated the presence of a negative relationship between attitude and instructional behaviors but that this relationship was not a statistically significant one. It appears that

for this sample, teachers' attitude is not related to their instructional behaviors in the classroom. In other words, this negative relationship seemed to indicate that those teachers in the sample who felt positively about creativity, did not engage in instructional behaviors that are considered to foster creative expression in young children to the extent the researcher expected them to, on the basis of the review of literature.

On the other hand, the four behavior sub-categories were significantly positively correlated to teachers' instructional behaviors but not to their attitude, seemed to indicate that the behavior Checklist was measuring behaviors that indeed were part of a unified system of behavior. Usually when behavior subscales are intercorrelated to each other, most often there is no relationship between them, which was not the case for the sub-categories in the Checklist used in this study.

The second research question stated whether or not there was a relationship between teachers' age, sex, educational degree, certification, teaching experience, their expressed attitude towards creativity and their actual instructional behaviors in the classroom.

Analysis of variance indicated that there was no relationship between teachers' background variables, their expressed attitude towards creativity and their instructional behaviors, but the Pearson correlation coefficient indicated a negative relationship between attitude, instructional behaviors and majority of the background

variables. In other words, for the present sample, it appears that age, sex, educational degree, certification, and teaching experience have no significant effect on how the teachers' feel about creativity, nor are these background variables significantly related to teachers' use in the classroom of instructional behaviors that are supposed to foster creative expression in young children.

When the relationship between teachers' educational background, attitude and instructional behaviors was examined using a t-test analysis, the findings indicated once again that there was no significant relationship between the teachers' educational degrees, attitude and instructional behaviors, and the background variables. Therefore, for this sample of teachers, it appears that the different academic degrees were not significantly related to attitude and instructional behaviors.

A Pearson product-moment correlation coefficient analysis between the 31 behavior statements in the Checklist, teachers' attitude and instructional behaviors and the five background variables was conducted to find if any of the individual behavior statements was significantly related to teachers' attitude and or to their instructional behaviors. The majority of the behavior statements were found to be non-significantly related to attitude except for three behavior statements that were significantly related. These were all negative relationships. In other words, the teachers in this sample who evidenced such behaviors did not appear to use instructional

behaviors that are considered to foster creative expression in young children even though they were assessed by the Test as having a positive attitude towards creativity. For example, these behaviors were those that did not allow the children to explore, experiment or solve problems at their own pace.

The same test indicated that the majority of the individual behavior statements were significantly intercorrelated to instructional behaviors. These 31 statements, when grouped into the four behavior sub-categories were also significantly correlated. The majority of the individual statements were not related to the teachers' background variables.

These results could have a number of possible explanations. The most probable one is offered by social scientists who see no relationship between attitude toward an object and any given behavior with respect to that object (Doob, 1947; La Piere, 1934; Thurstone, 1931). According to them and to Fishbein (1980), variables other than attitude have to be taken into consideration in order to predict human behavior. It could be that situational variables such as number of children in the classroom, financial restraints and other such factors were operating in the classroom at the time of the observation sessions that could have influenced the outcome of the study.

The negative correlation between teachers' attitude towards creativity and their instructional behaviors could be explained by the fact that, maybe the two research instruments were not accurately

measuring what they were supposed to. It is also possible that behaviors observed during the two observation sessions were not representative of the range of behaviors exhibited by the teachers in this sample during the course of a typical day in the classroom. Maybe over a longer period of time, the behavior scores of these teachers would have been different and therefore, more representative of their teaching practices.

The possibility that the Test and the Checklist were not accurately measuring what they were supposed to measure was investigated. To check this idea, some post-hoc analyses were conducted. A test of significance was performed between teachers in Group A (whose behaviors, as indicated by the researcher's observations were more along the lines of those behaviors that have been identified as behaviors that are conducive to the development of creative expression in young children) and teachers in Group B (who evidenced such behaviors less frequently during the observation period). This showed a large difference in mean between the instructional behaviors of teachers in Group A and B, even though that difference was not statistically significant. There was no difference in mean for their attitude score. This non-significant difference in mean for instructional behaviors and the significant positive correlation between the four behavior sub-categories in the Checklist and the instructional behaviors leads one to have more confidence in the Checklist than the Test, as a measurer of what it was supposed to

measure, that is, behaviors that foster creativity in children.

Another finding from the additional analyses was that when intercorrelated, attitude and behavior for the five teachers in Group A were positively correlated (r=.97, p= <.05), meaning that these teachers' positive attitude ($\bar{X}$=5.1) towards creativity was reflected in their high instructional behavior scores ($\bar{X}$=231.0). Identifying these five teachers (T 12,17,19,21,and 24) on Figure 2 (scatter-gram on page 76) showed a nearly perfect positive relationship between attitude and behavior (three of the five teachers lie on a straight line with one teacher above and one teacher below this line). Looking at the entire sample, it shows a tendency for a negative direction, with two teachers (T3,25) away from the rest of the group. It could be possible that the attitude and instructional behavior scores of these two teachers are effecting the intercorrelation for the entire sample. The positive significant relationship between teachers' attitude and instructional behaviors in Group A could be interpreted as these five teachers being aware of what creative education is all about and also of the effect of physical environment, more than the teachers in group B. Therefore, these teachers besides fostering creative expression in their young children, also made provisions for a one-person space and privacy that the children need when in the process of creative behavior.

A final explanation could be that these were just chance results.

Limitations

In order to more accurately interpret the results of this study, it is necessary to note some limitations relating to the sample, research instruments and methodology.

Relating to the sample of the study, it must be noted that only 30 teachers working in nine preschools were chosen from among the many teachers throughout Hampshire County and the country at large. This sample was designed to be a convenience sample, not a representative sample as the group consisted of teachers who had volunteered to participate in this study. Therefore, no generalizations to the entire population of preschool teachers can be possible other than those regarding to the group itself.

Since the participants for this study were chosen on a volunteer basis, the sample is therefore not a homogeneus group in terms of age, sex, educational background, and teaching experience. Also that the sample was small, it could not be expected that the observed behaviors were normally distributed.

A possible limitation of the instruments used in this study could be that the attitude Test and the behavior Checklist might not have accurately assessed what they were actually intended to assess, and that the number of items in the Test and the Checklist were not enough to capture the actual nature of attitude and behavior. Because of the way the items were stated in the Test, it is possible that the

responses of some of the teachers could reflect theoretical beliefs of what they thought they should say as opposed to actual attitudes. The fact that the 31 statements in the four behavior sub-categories in the Behavior Observation Checklist were grouped on Face validity rather than through Factor Analysis, could have influenced reliability of the Checklist.

Further limitations in methodology maybe related to the number and duration of the observation sessions, the schedule of the sessions, the effect of the researcher's presence in the classroom and the observer's bias. It is possible that what was assessed as the teachers' instructional behaviors during the two observation sessions of 45 minutes each was not necessarily representative of their actual teaching repertoire. Even though two visits were made, it is possible that the same teacher was observed at an inopportune time each session. Since the observation sessions were scheduled for mostly during free-play part of the school day, it is possible that less amount of instructional behaviors was required by the teachers at that time due to the nature of the activities that were happening.

It is also possible that the presence of the researcher in the classroom, might have influenced the teachers' behaviors. There is also the possibility of some element of selective perception on the part of the researcher, who therefore, may not have observed all of the behaviors evidenced by the teachers during the observation sessions. This effect of the researcher's presence in the classroom

may have eventually disappeared if the observations were done repeatedly over a longer period of time.

Conclusion

Two tasks were undertaken in this study. The first task was to compare teachers' expressed attitude towards creativity with their actual instructional behaviors in the classroom. The second, was to assess the relationship between teacher's background information such as age, sex, educational degree, certification, and teaching experience, their expressed attitude and their actual instructional behaviors.

An emerging concern in the field of creative education has been the influence of the teacher's attitude towards creativity on the fostering of creativity in young children (Treffinger, Ripple & Dacey, 1968). The importance of this influence is supported by evidence of a reciprocal relationship between attitude and behaviors (Kelman, 1974). However, review of the literature reveals little research linking teacher's attitude towards creativity and their actual instructional behaviors in the classroom, even though studies have indicated the importance of teacher's attitude towards creativity in fostering creative expression in children (Baroody, et. all., 1976; Treffinger, et. al., 1968).

Therefore, the primary purpose of this study was to investigate

whether or not there exists a link between attitude and behavior and the nature of that link. In order to fulfill the primary purpose, an existing "Attitude towards Creativity Test" (Tabatabaean, 1981) was used to measure attitude, and to assess classroom instructional behaviors a "Behavior Observation Checklist" was specifically developed during the preliminary stages of this research.

The study produced findings contrary to the research questions. The measures of attitude and behaviors were negatively correlated. The higher the teachers' positive attitude score, the lower their instructional behaviors in those behaviors that are considered to foster creative expression in young children. This was not so for the five teachers whose positive attitude towards creativity was significantly positively related to their instructional behaviors.

If one accepts the premise that teachers, more than others, have the greatest influence on the nature of the classroom, then it should follow that their attitudes are expressed in the classroom and have a significant effect on students (Evens, 1965; Kerlinger, 1964). Acceptance or rejection by teachers have a profound influence on "the social (creative) growth of children" (Haring, et. al., 1958).

This assertion does not seem to be reflected in the results of this study: it can not be concluded that there is a positive relationship between teachers' expressed attitudes towards creativity and their instructional behaviors as it appears for this sample. These teachers exhibited fewer of those behaviors that are considered

to foster creative growth, for example, "rephrases question if child does not respond; using more than one way of presenting materials; feeling comfortable when challenged; allowing for children's learning preference; allowing children to solve problems in unique ways; allowing for unusual and imaginative response"(as tallied in the Behavior Observation Checklist).

Previous researchers (Davis, 1983; Haddan & Lytton, 1968; Ramey & Piper, 1974; Shallcross, 1981; Torrance & Myers, 1970) have stressed that one of the most critical consideration in stimulating creative thinking is establishing and maintaining a creative environment - one in which creativity is encouraged and rewarded. An important condition in such an environment is the privacy available to the children in the classroom. The data showed that out of the nine centers only three had such a one-person space. This was another indication that the majority of the teachers in this sample were unaware of the effect of the physical setup on creativity, even though they expressed a positive attitude towards creativity. But this was not the case for the five teachers who appeared to be more aware of the effect of the physical environment on children's ability to express creatively.

The results of this research indicate that there is a negative correlation between what teachers' in the present sample express as belief systems and how they behave instructionally in their classrooms; and that there is no relation between their age, sex,

educational degree, certification, teaching experience, their expressed attitude and assessed classroom behavior. Because the sample is not representative of the entire preschool teacher population, the conclusions generated by this study are applicable only to the sample of teachers used in the present study.

The most probable conclusion could be that the Test might not be a measure that truly reflects people's attitude towards creativity and that the teachers' instructional behaviors as identified by the Checklist did not relate to their attitude as assessed by the Test. Had the research instruments been reliable measurers of attitude and instructional behaviors, then a possible conclusion could be that the teachers may be theoretically aware of and appreciate creative education and that it should be fostered in children, but do not have the skill or know the techniques of evoking the creative potential in children. To change their instructional behaviors in the classrooms, these teachers have to know what to do and how to go about setting up an environment or a situation conducive to fostering creative behaviors in children. They also need to decrease the discrepency between what they say they believe in and what they do. Also that this group of teachers lack the theoretical understanding of what creativity and creative behavior is all about, and therefore cannot exhibit behaviors that would foster creative expression in young children. It should be remembered that some of the teachers in this group did show an appreciation of creativity and did evidence

behaviors that are considered to foster creative expression in children, as those five teachers in Group A whose attitude scores were positively correlated with their instructional behavior scores. But as a group this does not seem to be the case, which could also be due to the discrepancies in teachers' educational background and training.

Recommendations

These teachers could be exposed to the different theories of creative behavior and individual creative characteristics, theories of affective education and techniques for evoking creative behavior such as brainstorming, forcing relationships, etc. They could also learn to understand the creative problem-solving process and the conditions necessary for an environment to be conducive to creative growth. They could also study the functioning of brain hemisphericity, cognitive styles of learning, and their effects on learning and creative growth.

The needs of the teachers could be constantly evaluated and re-evaluated, so that the information given to them is relevant and therefore helpful. Based on the above conclusions, it is possible that there might be a need for the teachers in this sample, to be exposed to creative education and to the various techniques of evoking creative growth in young children.

A possible suggestion as to how to make these teachers more aware of creative education, could be through in-service training workshops.

Being exposed to these workshops, might achieve in teachers a greater sensitivity to the nurturance of creative behavior in young children which will then be reflected in their classroom performance. It is hoped also that the workshops will be helpful towards maintaining optimum conditions for creative growth and excellence in teaching "as the effects of the early years of children's schools" (Bridgeman, 1985) "have a strong tendency to persist in their later years, regardless of the present learning atmosphere" (Haddan & Lytton, 1968; Hawkins, 1965; Husen, 1974). And finally, it is hoped that the discrepency between what these teachers believe in and their actual classroom performance could be gradually decreased.

Recommendation for Future Research

There might be a possibility that variables not tapped in the present study may have influenced the outcome of the study. Therefore, it is suggested that variables such as individual differences, social consequences of the measured behaviors, environmental constraints, a different measure of attitude and other extraneous varibles should be considered.

In terms of the research instruments, two major suggestions are made. One, the Test in its present form needs to be thoroughly examined in terms of its comparison with behavior. This could be accomplished by correlating each of the items in the Test with the

items in the Checklist, in order to find out which of the Test items actually relate to the behavior statements in the Checklist. Two, the behavior statements in the Checklist should be reduced and operationally defined so that a limited and specific manifestations of behaviors that nurture creative expression in young children are observed and therefore, measured.

A larger sample including a more diverse population, for example, one that includes teachers from inner city and from a cosmopolitan area; observations of an equal number of male and female teachers and a more homogeneus group in terms of their background variables would be valuable. Similarly, more observers collecting data, more observation sessions at different intervals and observations at different time of the school day could all produce findings worth investigating.

In addition to collecting data on teachers, children's creative works could also be measured over time to see whether teachers' behaviors that were supposed to foster creative expression did or did not do so.

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APPENDICES

APPENDIX A

Attitude toward Creativity Test
Personal Data Form

Attitude toward Creativity Test

In this Test you will find a number of statements reflecting different attitudes toward creativity. This is meant to express your own opinion. There is no right or wrong answer. Please indicate your response against each statement.

Please use a check mark (✓) for every statement you agree with, a cross (✗) if you disagree, and a question mark (?) if you are undecided. For example:

Creativity is

✓ ..an innate capability

✗ ..an innate capability

? ..an innate capability

CREATIVITY IS

1. ...a fulfilling capability. (6.01)

2. ...found in its truest sense in only a handful of individuals throughout history. (3.31)

3. ...a process by means of which people unite themselves with the world. (5.17)

Note: The numbers in parenthesis at the end of each statement is its scale value as derived by Tabatabean. These values did not appear in the actual test that was completed by each participating teacher.

4. ...a quality that requires one to be goal-directed. (4.60)

5. ...a potential of every student, but should not be the concern of educational institutions. (2.46)

6. ...an inadequate phenomenon born of mysticism. (1.95)

7. ...a favorable outcome of education. (6.01)

8. ...an in-born capability that cannot be taught or developed. (3.17)

9. ...an ability that can be developed in any field, if it is well taught. (5.10)

10. ...an identifiable phenomenon. (4.31)

11. ...believed to be equated with unacceptable behavior. (2.22)

12. ...a concept of a questionable value. (1.93)

13. ...a desirable goal of education. (6.04)

14. ...a phenomenon that cannot be analyzed. (3.66)

15. ...a potential that should be improved in each individual through well organized teaching. (5.24)

16. ...a potential which requires discipline to flower. (4.54)

17. ...an ability that must be thought of as a rare occurance. (2.72)

18. ...a quality often associated with undisciplined students. (1.96)

19. ...an essential element in the process of human growth. (6.42)

20. ...a potential that flowers best in undisciplined situations. (3.75)

21. ...a potential existing in every individual to some degree. (5.95)

22. ...not vital as a primary goal in an educational program. (2.27)

23. ...an important characteristics of the capable person. (5.75)

24. ...a weak idea of little relevance to educational organizations. (1.42)

25. ...humanity's striving for self-actualization. (5.24)

26. ...a single flash of intuition. (3.60)

27. ...an undesirable outcome of education. (1.47)

28. ...developed through systematic effort. (4.17)

29. ...a random effort in most situations. (2.90)

30. ...a capability that can be best developed in any area by having substantial knowledge in that area. (4.29)

PERSONAL DATA FORM

Name: _____ Date: _____

School: _____

Sex: Female Male

Age: 20-30 yrs. 30-40 yrs. 40 yrs. plus

Educational background: Degree (s) held: _____

Certification: _____

Teaching experience in years:

0-5 yrs. 5-10 yrs. 10 yrs plus.

Thanks a lot.

APPENDIX B

Final Version
Behavior Observation Checklist

BEHAVIOR OBSERVATION CHECKLIST
Event Sampling Procedure

Name of Preschool:_____ H.T./Asst.T. Code:_____

Teacher's Name:_____ Age Group:_____

Total number of:_____children/ Adults_____(Specify)

Observation Session First:_____(date)
Second:_____(date)

Notes:

Physical Environment

Does the teacher:

- provide space for group work Y/N
- provide space for individual work Y/N
- allow child to have private space Y/N
- allow for easy access to materials Y/N

Interaction with children/ Questioning Style — Time / # of kids / Activity						
Does the teacher:						
make eye contact with the child who is speaking						
give time(10sec)for the child to respond after asking question						
rephrase the question if no response occurs						
accept response even if unrelated to the topic						
pay attention to both bright and slow children						
give positive feedback						
allow physical contact between self and child						
respond positively to childrens' humor						
allow non-conforming behavior within limits						
Presentation/Discussion Style						
use more than one way of presenting materials						
motivate childrens' learning through cooperation						
stress childrens' responsibility towards learning						
use humor in own teaching style						
feel comfortable when challenged						
withhold premature judgement or criticism						
him/herself how enthusiasm towards learning						
allow as much time as needed for task to be completed						

* *

Comments:

Environment/mental conditions Does the teacher: — Time / # of kids / Activity						
allow for the unusual and imaginative response						
allow children to explore experiment solve problems						
allow children to solve problems in unique ways						
allow for childrens' learning preference						
allow for childrens' activity preference						
allow free thinking w/o imposing own ideas						
allow for more than one way of doing tasks						
allow children to suggest activities and execute them teacher executes						
Emotional conditions						
allow children to express emotions - positive negative						
allow children to share personal experience						
allow children to be self-reliant and to take initiatives						
establish ground rules for childrens' sense of security						
allow children to respect self as a resource						
allow children to take risks						

* *

Comments:

APPENDIX C

Preliminary Version
Behavior Observation Checklist

Course Title:_____

Undergradutate/Graduate Male/Female

Date:_____

Instructions

In the following Behavior Observation Checklist you will find statements about teachers' instructional behaviors in the classroom. Each statement reflects a behavior that is thought to allow for creativity and creative expression in young children. The purpose of the Checklist is to determine how important each of these behaviors is in helping a teacher develop an instructional environment conducive to the fostering of creativity and creative expression in the children. In other words, how important are these instructional behaviors in facilitating the emergence and expression of individual creative traits. Each statement is based on individual creative traits identified by Guilford (1977), Myers & Torrance (1961), Osborn (1953), and Shallcross (1981).

In your opinion, how important is each behavior in terms of it's allowing for creativity and creative expression in young children? Consider each statement independently of the others.

Each behavior statement is followed by a 7-point scale. The seven numbers should be thought of as a continuum, with the numbers 1-3 representing "unimportant", 4 representing "neutral" and 5-7 representing "important". Please indicate, by circling a number that best reflects your opinion, how important the behavior is in fostering creativity and creative expression in an instructional setting.

As an example consider the following:

To encourage creativity and creative expression in children, how important are the following behavior statements?

How important is it that the teacher:	unimportant			neutral	important		
	1	2	3	4	5	6	7
	very		somewhat		somewhat		very
1. encourages all children learn in the same manner							
2. allow children to discover how to solve problems	1	2	3	4	5	6	7

The results of this Checklist will help design a final Checklist to be used as an instrument in my Ph.D. research

Absolute anonymity is guaranteed

Thank you

Naz Mohamed.

1

Behavior Observation Checklist

Please indicate your opinion regarding the importance of the following behaviors in fostering creativity by circling the appropriate numbers

To encourage creativity and creative expression in children, how important are the following behavior statements?

	unimportant			neutral	important		
	1 very	2	3 somewhat	4	5 somewhat	6	7 very
Questioning Style							
How important is it that the teacher:	1	2	3	4	5	6	7
1. make eye contact with the child who is speaking	1	2	3	4	5	6	7
2. give time (10 sec.) for the child to respond after asking question	1	2	3	4	5	6	7
3. stress only topic related responses	1	2	3	4	5	6	7
4. rephrase the question if no response occurs	1	2	3	4	5	6	7
5. allow for the unusual and imaginative response	1	2	3	4	5	6	7
6. accept a response even if unrelated to the topic	1	2	3	4	5	6	7
7. lead all discussions	1	2	3	4	5	6	7
Task Set Up							
8. allow for more than one way of doing the task	1	2	3	4	5	6	7
9. impose own way of giving directions and instructions	1	2	3	4	5	6	7

2

	neutral						
	unimportant				important		
	1	2	3	4	5	6	7
	very		somewhat		somewhat		very

How important is it that the teacher:

10. allow children to experiment, explore and solve problems by themselves	1	2	3	4	5	6	7
11. reprimand those not involved in tasks at hand, but appropriately engaged otherwise	1	2	3	4	5	6	7
12. allow as much time as needed for task to be completed	1	2	3	4	5	6	7
13. put a great deal of emphasis on the end product	1	2	3	4	5	6	7
14. use only one style of presenting tasks and materials	1	2	3	4	5	6	7
15. allow children to continue with tasks until all possibilities are exhausted	1	2	3	4	5	6	7
16. have rigid over-planned programs	1	2	3	4	5	6	7
17. allow children to continue until they lose interest	1	2	3	4	5	6	7
18. allow children to suggest activities and to execute them	1	2	3	4	5	6	7
19. impose own way of thinking and accomplishing tasks	1	2	3	4	5	6	7
20. allow children to solve tasks in unique ways	1	2	3	4	5	6	7
21. set clear time limits for each activity	1	2	3	4	5	6	7
22. use more than one way of presenting materials	1	2	3	4	5	6	7
23. stress conformity in childrens' expressions and ideas	1	2	3	4	5	6	7
24. allow for the child's learning preference	1	2	3	4	5	6	7

	unimportant			neutral	important		
	1	2	3	4	5	6	7
	very		somewhat		somewhat		very

How important is it that the teacher:

25. keep children "on task" as much as possible	1	2	3	4	5	6	7
26. make plans by him/herself without childrens' input	1	2	3	4	5	6	7

Physical Space

27. allow space for group work	1	2	3	4	5	6	7
28. allow space for individual work	1	2	3	4	5	6	7
29. stress cleanliness and tidiness at all times	1	2	3	4	5	6	7
30. allow the child to have private space	1	2	3	4	5	6	7
31. allow for easy access to materials	1	2	3	4	5	6	7
32. not interrupt children at work to make them clean up	1	2	3	4	5	6	7

Teaching Style

33. pay attention to both bright and slow children	1	2	3	4	5	6	7
34. use only extrinsic motivation, eg. grades, stars, token-reinforcement	1	2	3	4	5	6	7
35. stress compliance and submission among children	1	2	3	4	5	6	7
36. give positive feedback	1	2	3	4	5	6	7
37. give negative feedback	1	2	3	4	5	6	7

	1	2	3	4	5	6	7
	very		somewhat	neutral	somewhat		very
		unimportant			important		

How important is it that the teacher:

38. allow physical contact between children	1	2	3	4	5	6	7
39. allow physical contact between self and child	1	2	3	4	5	6	7
40. teach the units in isolation	1	2	3	4	5	6	7
41. stress that children accept information without questioning	1	2	3	4	5	6	7
42. be authoritarian and a disciplinarian	1	2	3	4	5	6	7
43. control spontaneity in children for smooth functioning of class	1	2	3	4	5	6	7
44. allow children to express their							
*positive emotions	1	2	3	4	5	6	7
*negative emotions	1	2	3	4	5	6	7
45. allow children to share personal experiences	1	2	3	4	5	6	7
46. allow children to be self-reliant and to take initiatives	1	2	3	4	5	6	7
47. allow free thinking without imposing own ideas	1	2	3	4	5	6	7
48. motivate childrens' learning through cooperation	1	2	3	4	5	6	7
49. motivate childrens' learning through competition	1	2	3	4	5	6	7
50. allow children to explore a task by stressing the process	1	2	3	4	5	6	7
51. insist that all children participate irrespective to child's wishes	1	2	3	4	5	6	7
52. allow children to concentrate on the end product	1	2	3	4	5	6	7

5

How important is it that the teacher:	very unimportant 1	2	somewhat unimportant 3	neutral 4	somewhat important 5	6	very important 7
53. constantly evaluate and judge childrens' behaviors and responses	1	2	3	4	5	6	7
54. allow children to take risks	1	2	3	4	5	6	7
55. respond positively to childrens' humor	1	2	3	4	5	6	7
56. stress childrens' responsibility towards school	1	2	3	4	5	6	7
57. use humor in own teaching style	1	2	3	4	5	6	7
58. feel comfortable when challenged	1	2	3	4	5	6	7
59. withhold premature judgement or criticism	1	2	3	4	5	6	7
60. evaluate each child's work as final, rather than as an on-going process	1	2	3	4	5	6	7
61. establish some ground rules for childrens' sense of security	1	2	3	4	5	6	7
62. stress teacher appropriate behaviors only	1	2	3	4	5	6	7
63. allow children to respect self as a resource	1	2	3	4	5	6	7
64. stress competition among peers	1	2	3	4	5	6	7
65. her/himself show enthusiasm towards learning	1	2	3	4	5	6	7
66. allow non-conforming behavior within limits	1	2	3	4	5	6	7

* *

<u>Comments and suggestions for improvements</u>:

APPENDIX D

Scale values and response frequency by the 26 judges
for the preliminary version of the
Behavior Observation Checklist

Scale Values and Response Frequency

Statements meeting the criteria of Scale Value of 5.00 and above on the 7-point scale and 70% response frequency by the 26 judges were included in the final version of the "Behavior Observation Checklist".

Behavior Statements	Actual Scale Value	Actual Response Frequency
Questioning Style		
How important is it that the teacher:		
1. make eye contact with the child who is speaking	5,6,7	23
2. give time (10 sec.)for the child to respond after asking question	5,6,7	24
3. stress topic related responses	1.2,3,4	17
4. rephrases question if no response occurs	5,6,7	26
5. allow for the unusual and imaginative response	5,6,7	26
6. accept a response even if unrelated to the topic	5 6,7	16
7. lead all discussions	1,2,3	17
Task Set Up		
8. allow for more than one way of doing the task	5,6,7,	26
9. impose own way of giving directions and instructions	1,2,3,4,	20

Behavior Statements	Actual Scale Value	Actual Response Frequency
How important is it that the teacher:		
10. allow children to experiment, explore and solve problems by themselves	5,6,7	26
11. reprimand those not involved in tasks at hand, but appropriately engaged otherwise	1,2,3,4	19
12. allow as much time as needed for task to be completed	5,6,7,	20
13. put a great deal of emphasis on end product	1,2,3,4,	16
14. use only one style of presenting tasks and materials	1,2,3,4,	13
15. allow children to continue with tasks until all possibilities are exhausted	1,2,3,4	13
16. have rigid over-planned programs	1,2,3,4	23
17. allow children to continue until they lose interest	1,2,3,4	19
18. allow children to suggest activities and to execute them	5,6,7	24
19. impose own way of thinking and accomplishing task	1,2,3,4	25
20. allow children to solve problems in unique ways	5,6,7	26
21. set clear time limits for each activity	1,2,3,4	15
22. use more than one way of presenting materials	5,6,7	26
23. stress conformity in childrens' expressions and ideas	1,2,3,4	23
24. allow for the child's learning preference	5,6,7	26

3

Behavior Statements	Actual Scale Value	Actual Response Frequency
How important is it that the teacher:		
25. keep children "on task" as much as possible	1,2,3,4	16
26. make plans by him/herself without children's input	1,2,3,4	18
Physical Space		
27. allow space for group work	5,6,7	26
28. allow space for individual work	5,6,7	26
29. stress cleanliness and tidiness at all times	1,2,3,4	14
30. allow the child to have private space	5,6,7	25
31. allow for easy access to materials	5,6,7	26
32. not interrupt children at work to make them clean up	1,2,3,4	14
Teaching Style		
33. pay attention to both bright and slow children	5,6,7	26
34. use only extrinsic motivation, eg. grades, stars, token-reinforcement	1,2,3,4	26
35. stress compliance and submission among children	1,2,3,4	22
36. give positive feedback	5,6,7	24
37. give negative feedback	1,2,3,4	18
38. allow physical contact between self and children	5,6,7	23
39. teach the units in isolation	1,2,3,4	17
40. stress that children accept information without questioning	1,2,3,4	22

Behavior Statements	Actual Scale Value	Actual Response Frequency
How important is it that the teacher:		
41. be authoritarian and a disciplinarian	1,2,3,4	17
42. control spontaneity in children for smooth functioning of class	1,2,3,4	17
43. allow children to express positive and negative emotions	1,2,3,4	23
44. allow children to share personal experiences	5,6,7	25
45. allow children to be self-reliant and to take initiatives	5,6,7	25
46. allow free thinking without imposing own ideas	5,6,7	24
47. motivate children's learning through cooperation	5,6,7	24
48. motivate children's learning through competition	1,2,3,4	13
49. allow children to explore a task by stressing the process	1,2,3,4	13
50. insist that all children participate irrespective of child's wishes	1,2,3,4	15
51. allow children to concentrate on the end product	1,2,3,4	16
52. constantly evaluate and judge children's behaviors/responses	1,2,3,4	17
53. allow children to take risks	5,6,7	26
54. respond positively to child's humor	5,6,7	25
55. stress child's responsibility towards learning	5,6,7	19
56. use humor in own teaching style	5,6,7	25
57. feel comfortable when challenged	5,6,7	25

5

Behavior Statements	Actual Scale Value	Actual Response Frequency
How important is it that the teacher:		
58. withhold premature judgement or cirticism	5,6,7	23
59. evaluate each child's work as final, rather than as an on-going process	1,2,3,4	23
60. establish some ground rules for child's sense of security	5,6,7	19
61. stress teacher appropriate behaviors only	1,2,3,4	16
62. allow child to respect self as a resource	5,6,7	23
63. stress competition among peers	1,2,3,4	17
64. her/himself show enthusiasm towards learning	5,6,7	24
65. allow non-conforming behavior within limits	5,6,7	19

APPENDIX E

The 35 behavior statements chosen by the judges
for inclusion in the Checklist
categorized under the five content categories

Behavior statements and content categories
chosen by the judges

Interaction with children/Questioning style

1. make eye contact with the child who is speaking
2. give time (10 sec) for the child to respond after asking question
3. rephrase the question if no response occurs
4. accept response even if unrelated to the topic
5. pay attention to both bright and slow children
6. give positive feedback
7. allow physical contact between self and child
8. respond positively to children's humor
9. allow non-conforming behavior within limits

Presentation/Discussion sytle

10. use more than one way of presenting materials
11. motivate children's learning through cooperation
12. stress children's responsibility towards learning
13. use humor in own teaching style
14. feel comfortable when challenged
15. withhold premature judgement or criticism
16. him/herself show enthusiasm towards learning
17. allow as much time as needed for the task to be completed

Environmental - conditions/Physical

18. allow space for group work
19. allow space for individual work
20. allow children to have private space
21. allow for easy access to materials

Mental conditions

22. allow for the unusual and imaginative response
23. allow children to experiment, explore and solve problems by themselves
24. allow children to solve problems in unique ways
25. allow for children's learning preference
26. allow for children's activity preference
27. allow free thinking without imposing own ideas
28. allow for more than one way of doing tasks
29. allow children to suggest activities and execute them, or teacher executes

Emotional conditions

30. allow children to express emotions - negative and positive
31. allow children to share personal experiences
32. allow children to be self-reliant and to take initiatives
33. establish ground rules for children's sense of security
34. allow children to respect self as a resource
35. allow children to take risks

APPENDIX F

Letter sent to the Directors

UNIVERSITY OF MASSACHUSETTS
AT AMHERST

School of Education
352 Hills South
Amherst, MA 01003

Human Services and Applied
Behavioral Sciences Division

Dear Director,

As part of my requirements for the Doctor of Education degree at the University of Massachusetts, Amherst, I am involved in a research project focusing on teacher's attitude and instructional behavior in the educational setting. As a means of obtaining data, I will be using a "Behavior Observation Checklist" developed by me, and a existing "Attitude Toward Creativity Test". With your permission, I would like to contact your early childhood teaching staff. Please be assured that the proposal for this study has been approved by my faculty dissertation committee, chaired by Dr. Doris, J. Shallcross of the Early Childhood Education Program, Univ. of Mass.. Throughout the course of my research, I will be guided by this committee.

Data obtained from the Test and live observation will be held anonymous to all others except me, throughout the duration of this study.

Upon completion of this project, and if you so wish, I will forward the summarized data, conclusions and recommendations of this study.

If you agree to this study, please sign the attached permission form. Could you also write the names of your teaching staff. From this list, I will choose teachers most suitable for my study(teaching 3 & 4 yr.olds).

Next week I will be visiting your office to pick up the permission form and the names of the teachers. I will also be contacting the selected teachers at that time to see if they would volunteer to participate in my study.

Thank you for assisting me in this research project.

Sincerely,

Naz Mohamed

Naz Mohamed

Director's Permission Form

I,_____ give permission to Ms. Naz Mohamed to observe and assess members of my teaching staff for her doctoral research. The teachers will be chosen from the list of names provided by me.

Signature:_____

Name of Preschool:_____

_____

Date:_____

Name of teachers:	Position (Head Teacher/Asst.Teacher)	Age Group
1._____	_____	_____
2._____	_____	_____
3._____	_____	_____
4._____	_____	_____
5._____	_____	_____
6._____	_____	_____

APPENDIX G

Letter sent to the Teachers

UNIVERSITY OF MASSACHUSETTS
AT AMHERST

School of Education
352 Hills South
Amherst, MA 01003

Human Services and Applied
Behavioral Sciences Division

Dear Teacher's name

As part of my requirements for the Doctor of Education degree at the University of Massachusetts, Amherst, I am involved in a research project focusing on teacher's attitude and instructional behavior in the educational setting. First, I will observe you twice in your classroom for a 30 to 45 minute session each time. An initial session will be necessary, in order to habituate the children in your classroom with my presence. The observation timings will be at our mutual convenience. Upon completion of my two observation sessions, I will have you complete an "Attitude Toward Creativity Test" and a Personal Data Form.

Prior to my contacting you, I have received permission from the director of your preschool. Please be assured that you will remain anonymous to all others except me, throughout my research project.

Upon completion of this study, and if you so desire, I would be very happy to share with you the Test and observation data, as well as my conclusions and recommendations.

If you agree to participate in my research project, please sign your name on the attached Consent Form which I will collect from you. If at any time during the data collection period, you wish to withdraw as a participant, you may do so. Obviously, a total particpation by you would be appreciated for the unhindered collection of my data.

Thank you for your willingness to participate in my study.

Sincerely,

Naz Mohamed

Naz Mohamed

Teacher's Consent Form

I,_____ consent to participate in your research project, be observed twice for a 30 to 45 minute session each, fill out the Personal Data Form and take the Test.

Signature:_____

Name of Preschool:_____

_____

Date:_____

APPENDIX H

Eight curricular activity categories

ACTIVITY CATEGORIES							
Art	Table	Circle Group time	Projects	Manipulatives	Conflict Resolution	Games	Miscellaneous
Birthday poster Crayon on paper Drawing a monster Pasta collage Finger painting Stencil on paper Colored cube patterns Chalk rubbings Potato painting String painting Penguin collage Butterfly collage Easter basket Gluing rocks Guing beans & seeds Cutting & paisting Stained glass	Clay Playdo pretzel Toys Stamp pads Puzzle Wheel toy Space ship Silly putty Farm animals Balance beam Numbered pegs	Singing Story Discussing play Food items Show & tell Feeling game Dinosaur era Rhythm in nature Whale-eating habits Medical stretcher Bee & honey process Banjo music Social convention rules	Puppet heads Marakas Noise makers Planting Fishing for frogs Cooking Bird feeders Whale mobile Pussy willo Sewing & weaving Carpentry Making a guitar	Block building Straw construction Quisinair rods Obsticle course Building space-ship Lego Geo board Cars & blocks Camping	Talking one on one with child Onlooker - boys/girls in blocks	Sequence cards Musical chairs Concentration cards Color Bingo rama Candly land Pin bowling Spinning with cards	Floater Outdoor walk Play rehersal Clean up Helping teacher Free play Socio-dramatic Snack-time Preparing snack Typewriter Rocking chair Survey-questioning

APPENDIX I

Raw data of the sample

Teachers' Scores on "Attitude towards Creativity Test"

and "Behavior Observation Checklist"

Teacher Code	Frequency of Behaviors in Categories 1	2	3	4	Total Behavior	Test Score	Attitude
01	64	26	31	37	158	5.47	positive
02	56	22	49	43	170	5.93	positive
03	107	39	61	56	163	4.38	neutral
04	50	21	24	34	129	4.46	positive
05	73	33	46	51	203	5.08	positive
06	43	21	33	33	130	5.21	positive
07	44	9	25	29	107	5.14	positive
08	38	19	43	32	132	5.14	positive
09	82	32	53	41	208	5.14	positive
10	62	15	50	32	159	5.52	positive
11	71	21	69	59	220	5.26	positive
12	69	35	56	46	206	4.97	neutral
13	60	11	62	60	193	5.72	positive
14	59	17	52	38	166	5.00	positive
15	81	28	46	52	207	5.44	positive
16	66	28	34	36	164	5.57	positive
17	53	36	41	44	174	4.87	neutral
18	57	10	46	37	150	5.20	positive
19	51	44	63	50	208	5.05	positive
20	66	32	44	29	171	4.89	neutral

Teachers' Scores Cont.

21		85	48	71	78	282	5.21 positive
22		51	12	28	25	116	5.29 positive
23		65	20	46	47	178	4.69 neutral
24		92	55	76	63	286	5.19 positive
25		75	62	64	69	270	4.52 neutral
26		71	27	58	50	206	5.18 positive
27		87	27	41	33	188	5.39 positive
28		93	16	46	39	194	5.11 positive
29		50	13	39	44	146	5.46 positive
30		69	31	57	34	191	4.77 neutral
				Group Mean		185.8	5.02
				Group Std. Dev.		46.4	.34
Total	N	1990	810	1454	1321	5575	
	%	35.7	14.5	26.1	23.7		

Note: Category 1=Interaction with children/Questioning style
2=Presentation/Discussion style
3=Environmental conditions - mental
4=Environmental conditions - emotional

Frequency and Percentage of Teachers' Instructional Behaviors under 4(four) Sub-Categories and 8(eight) Situations

Instructional Behavior Category		Activity Situations								Total for Category
		Art 1	Table 2	Circle Group 3	Project 4	Mani-pulative 5	Conflict Resolution 6	Games 7	Misc. 8	
1. Interaction with children Questioning Style	N	362	259	364	296	287	34	110	278	1990
	%	18.2	13.0	18.3	14.9	14.4	1.7	5.5	14.0	35.7
2. Presentation Discussion Style	N	133	87	146	193	96	16	46	93	810
	%	16.4	10.7	18.0	23.8	11.9	2.0	5.7	11.5	14.5
3. Environmental Conditions Mental	N	247	170	200	276	247	19	74	221	1454
	%	17.0	11.7	13.8	19.0	17.0	1.3	5.0	15.2	26.0
4. Emotional Conditions	N	220	154	176	246	197	41	90	197	1321
	%	16.7	11.7	13.3	18.6	14.9	3.1	6.8	14.9	23.7
Total for Activity	N	962	670	886	1011	827	110	320	789	5575
	%	17.3	12.0	15.9	18.1	14.8	2.0	5.7	14.2	

Frequency of Teachers' Instructional Behaviors in Sub-Category 1(one) and it's Statements in 8(eight) Activity Situations

1.Interaction with children - Questioning Style	Activity Situations								Total for Category
	Art	Table	Circle Group	Project	Mani-pilative	Conflict Resolution	Games	Misc.	
Makes eye contact with child	77	56	76	60	65	8	20	62	424 21.3%
Gives time (10 sec.) for child to respond	18	16	38	22	30	5	6	28	163 8.2%
Rephrases question	2	1	12	5	1	0	2	1	24 1.2%
Accepts responce even if unrelated	11	14	47	11	9	3	5	2	102 5.1%
Attends all children	34	34	18	24	34	2	6	2	174 8.7%
Gives positive feedback	123	67	83	107	67	9	41	82	576 28.8%

Continued

1.Interaction with children - Questioning Style		Activity Situations								Total for Category
		Art	Table	Circle Group	Project	Mani-pilative	Conflict Resolution	Games	Misc.	
Allows physical contact between self and child		21	22	28	14	24	4	3	39	155 7.8%
Responds positively to child's humor		48	23	23	41	29	2	16	19	201 10.1%
Allow non-conforming behavior within limits		28	28	39	15	28	1	11	22	171 8.6%
Total for Activity	N	362	259	364	296	287	34	110	278	1990
	%	18.2	13.0	18.3	14.9	14.4	1.7	5.5	14.0	

Frequency of Teachers' Instructional Behaviors in Sub-Category 2 (two) and it's Statements in 8 (eight) Activity Situations

2. Presentation - Discussion Style	Activity Situations: Art	Table	Circle Group	Projects	Mani-pulatives	Conflict Resolution	Games	Misc.	Total for Category
Uses more than 1 way of presenting materials	3	3	18	6	3	0	2	3	38 4.7%
Motivates children's learning through cooperation	23	15	35	34	25	2	12	11	157 19.4%
Stress childrens' responsibility towards learning	27	13	19	43	12	4	10	17	145 17.9%
Uses humor in own teaching style	5	5	11	16	3	1	2	8	51 6.3%
Feels comfortable when challended	8	3	7	4	6	2	2	9	41 5.1%
Withholds premature judgement-criticism	22	17	18	38	19	3	7	13	137 16.9%

Continued

2. Presentation - Discussion Style		Activity Situations: Art	Table	Circle Group	Projects	Manipulatives	Conflict Resolution	Games	Misc.	Total for Category
Shows enthusiasm towards learning		8	6	16	3	6	2	3	9	53 6.5%
Allows time needed for task completion		37	25	22	49	22	2	8	23	188 23.2%
Total for Activity	N	133	87	146	193	96	16	46	93	810
	%	16.4	10.7	18.0	23.8	11.9	2.0	5.7	11.5	

Frequency of Teachers' Instructional Behaviors in Sub-Category 3 (three) and it's Statements in 8 (eight) Activity Situations

3. Environment	Activity Situations								Total
Mental Conditions	Art	Table	Circle Group	Projects	Mani-pulatives	Conflict Resolution	Games	Misc.	for Category
Allows for unusual & imaginative response	15	6	12	18	23	1	1	8	84 5.8%
Allows children to:									
explore	29	32	20	34	36	0	3	29	183-12.6%
experiment	5	6	5	8	3	0	2	8	37- 2.5%
solve problems	12	9	3	18	20	3	4	20	89- 6.1%
Allows children to solve problems in unique ways	7	9	8	9	11	2	3	6	55 3.8%
Allows for child's learning preference	10	7	7	13	4	0	1	7	49 3.4%
Allows for child's activity preference	50	27	37	63	40	1	14	44	276 19.0%
Allows free thinking without imposing own ideas	75	47	58	70	59	7	27	63	406 28.0%

Continued

3. Environment	Activity Situations								Total
Mental Conditions	Art	Table	Circle Group	Projects	Mani-pulatives	Conflict Resolution	Games	Misc.	for Category
Allows more than 1 way of doing things	20	9	9	12	12	1	2	8	73 5.0%
Allows children to suggest & execute activities	9	7	28	15	12	2	13	9	95-6.5%
or teacher executes	15	11	13	16	27	2	4	19	107-7.4%
Total for N	247	170	200	276	247	19	74	221	1454
Activity %	17.0	11.7	13.6	19.0	17.0	1.3	5.1	15.2	

Frequency of Teachers' Instructional Behaviors in Sub-Category 4 (four) and it's Statements in 8 (eight) Activity Situations

4. Environment	Activity Situations								Total
Emotional Conditions	Art	Table	Circle Group	Projects	Mani-pulatives	Conflict Resolution	Games	Misc.	for Category
Allows expression of negative feelings	3	2	6	4	4	1	3	4	27- 2.0%
positive feelings	3	1	9	5	4	5	3	7	37- 2.8%
Allows children to share personal experiences	59	25	41	37	31	3	10	33	239 18.1%
Allows children to be self-reliant & take initiatives	72	56	29	99	56	12	29	45	398 30.1%
Establish ground rule for sense of security	44	31	60	32	54	9	18	67	315 23.8%
Allows children to respect self as a resource	19	14	18	41	22	5	9	19	147 11.1%

Continued

4. Environment		Activity Situations								Total
Emotional Conditions		Art	Table	Circle Group	Projects	Manipulatives	Conflict Resolution	Games	Misc.	for Category
Allows children to take risks		20	25	13	28	26	6	18	22	158 12.0%
Total for Activity	N	220	154	176	246	197	41	90	197	1321
	%	16.7	11.7	13.3	18.6	14.9	3.1	6.8	14.9	