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TRIGG, MARILYN GERTRUDE
THE EFFECTS OF VARYING AMOUNTS OF CREATIVE
MODERN DANCE ACTIVITIES ON CREATIVE-THINKING
ABILITY AND SELF-CONCEPT.

THE UNIVERSITY OF NORTH CAROLINA AT
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MODERN DANCE ACTIVITIES ON CREATIVE-
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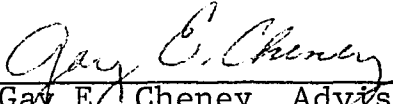
by

MARILYN G. TRIGG

A Dissertation Submitted to
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Approved by


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APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of the Graduate School at the University of North Carolina at Greensboro.

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TRIGG, MARILYN G. The Effects of Varying Amounts of Creative Modern Dance Activities on Creative-Thinking Abilities and Self-Concept. (1978)
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The purpose of this study was to investigate the effect varying amounts of creative modern dance activities had on subjects' creative-thinking abilities and self-concepts.

The subproblems of this study were as follows:

1. To determine if varying amounts of creative modern dance activities affect individuals' creative-thinking abilities as measured by the Torrance Tests of Creative Thinking (TTCT), Figural Form A and Figural Form B.
2. To determine if varying amounts of creative modern dance activities affect individuals' self-concepts as measured by the Tennessee Self-Concept Scale (TSCS), Counseling Form.
3. To determine whether and to what degree a significant relationship exists between creative-thinking abilities and self-concept.

Subjects of this investigation were 52 male and female undergraduate, nondance major students enrolled in the basic physical education program at the University of Georgia, Fall quarter 1977. Eleven subjects were selected from five nondance physical education classes and comprised the control group. The experimental group was composed of 41 subjects who were enrolled in one of two beginning-level modern dance classes. The experimental group was

divided into four subgroups and each subgroup received a different amount of creative modern dance activities.

Prior to administration of the treatment, the control and experimental groups were pretested on the TTCT, Figural Form A and the TSCS, Counseling Form. During the 10 weeks of the investigation subgroup one (N = 11) received four creative modern dance activities, subgroup two (N = 10) received eight creative modern dance activities, subgroup three (N = 10) received 12 creative modern dance activities, and subgroup four (N = 10) received 16 creative modern dance activities. The control group (N = 11) received no instruction in modern dance during the investigation. At the end of 10 weeks all groups were posttested on the TTCT, Figural Form B and on the TSCS, Counseling Form.

Three statistical techniques were utilized in this study. A one-way analysis of variance was utilized to determine if initial differences existed among mean performances of all five groups on the two pretest measures and to determine if final differences existed among the group mean performances on the two posttest measures.

A two-way analysis of variance was used to determine if group mean performance on the TTCT and TSCS changed from pretest to posttest within each group.

The Pearson Product Moment Correlation technique was used to determine whether and to what degree a

relationship existed between creative-thinking abilities and self-concept.

After 10 weeks, the results of this investigation showed no significant differences from pretesting to posttesting within or among group scores on the TTCT or the TSCS and the correlation technique revealed that virtually no relationship existed between creative-thinking abilities and self-concept.

Based on the findings of this investigation and within the limitations of the study, it was concluded that:

1. The amount of creative modern dance activities a subject experiences has no significant effect on his/her creative-thinking abilities.

2. The amount of creative modern dance activities a subject experiences has no significant effect on his/her self-concept.

3. A significant relationship does not exist between creative thinking-abilities and self-concept.

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CHAPTER I

INTRODUCTION

In an attempt to extend the educational validity of modern dance within the academic setting, dance educators have made numerous claims regarding its contribution to the individual's personal growth. Such claims imply that modern dance can enrich one's self-awareness (H'Doubler, 1966; Fleming, 1976), aesthetic sensitivity (Little, 1977), body image (Hawkins, 1954), creativity (Hawkins, 1964; H'Doubler, 1966; Radir, 1944; Turner, 1957), and self-concept (Fleming, 1976; Hawkins, 1954; Little, 1977, Mains, 1977). These dance educators' assertions seem to be based on the belief that the creative act is the core of the modern dance experience and that through involvement in this creative activity, the components of self become more fully developed. H'Doubler (Arts in Society, 1976) stated that it is the identification of self with one's own acts that is the significance of creative effort, and this identification contributes to a complete integration of the self (p. 328). H'Doubler suggested that repeated participation in the creative process promotes one's artistic growth, self-awareness, and self-discovery. In concert with this idea, dance educators Hawkins (1954, p. 72), Little (1977, p. 37), and Mains (1977, p. 42) stated that

the self becomes more integrated as a result of creative modern dance experiences. Little (1977) and Mains (1977) identified modern dance as a means for developing a positive self-concept.

Claims about the virtues that modern dance holds for the student have existed since 1918, the advent of dance in higher education. Two of these claims imply that, because of its creative nature, modern dance enhances one's creative-thinking abilities and positively affects one's self-concept. Though few, if any, dance proponents question these assertions, research supporting such claims is scarce. A need currently exists for investigation into if, and if so, how, these two attributes are developed. This study focused on the effect varying amounts of creative modern dance activities had on general creative-thinking abilities and on self-concept.

Statement of the Problem

This study was designed to determine the effect varying amounts of creative modern dance activities had on general creative-thinking abilities and on self-concept.

The subproblems of the study were:

1. To determine if varying amounts of creative modern dance activities affect individuals' creative-thinking abilities as measured by the Torrance Tests of Creative Thinking, Figural Form A and Figural Form B.

2. To determine if varying amounts of creative modern dance activities affect individuals' self-concepts as measured by the Tennessee Self Concept Scale, Counseling Form.

3. To determine whether and to what degree a significant relationship exists between individuals' creative-thinking abilities and self-concepts.

Hypotheses

The following were hypotheses of this study:

1. The amount of creative modern dance activities a subject experiences will significantly affect his/her general creative-thinking abilities.

2. The amount of creative modern dance activities a student experiences will significantly affect his/her self-concept.

3. A significant relationship exists between general creative-thinking abilities and self-concept.

Definition of Terms

In the context of this study, the following terms are defined.

Modern Dance. A creative dance form that allows for and cultivates the ability to express and communicate feelings and ideas through the medium of bodily movement (Ellfeldt, 1967).

Creative Modern Dance Activities. Movement activities based on problems which allow for subject discretion in the solution. Exploration, improvisation, composition and performance are regarded as creative modern dance activities (Ellfeldt, 1976; Hawkins, 1964).

Exploration. A creative modern dance activity in which the subject explores ranges of body part or total body movement as he/she interprets time, space, force cues given by the instructor (Hawkins, 1964).

Improvisation. A creative modern dance activity in which the subject spontaneously reacts to internal and/or external cues with unplanned movement responses (Cheney & Strader, 1969).

Composition. A creative modern dance activity in which the subject creates, selects and organizes movement that gives form to and expresses his/her idea about something (Humphrey, 1959).

Performance. A culminating creative modern dance activity in which the subject presents his/her (their) composition to the class.

Technique Class. A class designed to aid the subject in acquiring physical skills in modern dance, i.e., flexibility, strength, endurance, coordination of body parts.

Creative Thinking Abilities. "...refers to that constellation of generalized mental abilities that is

commonly presumed to be brought into play in creative achievements" (Torrance, in Davis, 1968, p. 276).

Self-Concept. "...self-concept is the person's total appraisal of his appearance, background and origins, abilities and resources, attitudes and feelings, which culminate as a directing force in behavior" (LaBenne & Greene, 1969, p. 10).

Assumptions

The basic assumptions underlying the study were:

1. The nature of modern dance allows for the designing of creative modern dance activities within its structure.
2. An individual's general creative-thinking abilities are measurable.
3. An individual's self-concept is measurable.
4. Ten weeks of modern dance is a sufficient time period to develop subjects' general creative-thinking abilities and self-concepts.

Delimitations

The following delimitations were imposed on this study:

1. Subjects were students not majoring in dance who enrolled in beginning level modern dance courses (PED 116A) at the University of Georgia, Athens, Georgia during the Fall Quarter, 1977.

2. The Torrance Tests of Creative Thinking, Figural Test A and Figural Test B, were selected as the instruments to measure general creative-thinking abilities.

3. The Tennessee Self-Concept Scale, Counseling Form, was utilized to measure self-concept.

4. The varying amounts of creative modern dance activities were determined by the investigator before the study began.

5. Creative modern dance activities utilized in this study were based on activities devised by recognized dance educators and recorded in the literature. When deemed appropriate by the investigator, original activities were modified. Modifications were motivated by time limitations, subjects' skill level, and subjects' interests in previous creative modern dance activities.

6. The instructor responsible for implementation of the creative modern dance activities was a part-time University of Georgia faculty member knowledgeable and experienced in modern dance instruction.

7. The teaching assistant was an undergraduate dance major student who had experience in teaching modern dance technique.

Limitations

The following were recognized as limitations of this study:

1. Sixteen class periods, 45 minutes each, may limit the development of the two attributes tested.

2. All limitations of the Torrance Tests of Creative Thinking, Figural Test A and Figural Test B, were accepted as limitations of this study.

3. All limitations of the Tennessee Self Concept Scale, Counseling Form, were accepted as limitations of this study.

4. No attempt was made to control instructors' teaching methodology or behavior.

Significance of the Study

Much of the literature in dance education has tended to focus on the educational values of modern dance. Descriptions of these values are stated characteristically in global terms, thus remaining vague in their meaning, e.g., "increased aliveness in the body producing a sense of well being...increased awareness of the world" (Jones & DeHaan, 1947, p. 3). Hawkins stated the following:

Dance as education can serve as a satisfying outlet for expression and at the same time help the individual gain emotional release, develop personality, increase sensitivity to environment and develop skill in working creatively. (Hawkins, 1954, p. 84)

Because the numerous proclamations made by dance leaders have been accepted without verification, there is minimal documentation of the effects of modern dance on students.

Dance programs continue to grow in American colleges and universities. Educators in this field are seeking to increase both quantity and quality of dance opportunities not only within the realm of higher education, but also within the curricula of public school education. To strengthen the stance that modern dance is beneficial to individuals, thus supporting its educational importance, the dance educator needs 1) to identify which benefits are suitable for development through modern dance, and 2) to gather evidence which documents the development of those benefits.

The areas of creative-thinking abilities and self-concept are ones which educational theorists and researchers continue to investigate for clarification of educational implications. Studies in both creative-thinking abilities and self-concept indicate interest in advancing knowledge about the relationship between each of those areas and academic achievement, I.Q. and personality traits. Few studies exist on the relationship between creativity and self-concept, and virtually no investigations have been made on the possible effects creative modern dance activities have on general creative-thinking abilities and self-concept.

Dance educators who regard modern dance as an educational medium have stated that growth in creative

ability and the development of a more positive self-concept are two outcomes of the modern dance experience. How these events occur, or if in fact they do occur, has received little research attention. Dance proponents allude to the notion that the creative nature of modern dance is a catalyst for the development of one's general creative abilities and self-concept (H'Doubler, 1976; Little, 1977).

In an attempt to substantiate the assertion that modern dance positively affects one's general creative abilities and self-concept, the purpose of this study was to test university students on the effect varying amounts of creative modern dance activities had on their general creative-thinking abilities, and self-concept, and to determine whether, and to what degree, a relationship existed between general creative-thinking abilities and self-concept.

CHAPTER II

REVIEW OF LITERATURE

The review of literature is divided into three principal sections. In the first section, addressed to modern dance in education, there is discussion of literature which relates to an historical perspective of dance in education, educational purposes and values of dance as education, and objectives, content and environment for the creative dance experience. Research in creativity and self-concept as related to modern dance is also included in this section. The second principle section focuses on creative-thinking abilities. An overview of creative-thinking abilities, their educational implications and related research tools are discussed in this section. Presented in the third section is an overview of self-concept theory followed by discussions of the educational implications of self-concept and research tools designed to measure self-concept. Studies relating creativity and self-concept are included in the third section.

Modern Dance in Education

Historical perspective. Examination into the acceptance and development of dance in its early educational

phases reveals significant influences on its resultant growth pattern. Historically, references to dance in education inferred modern dance in higher education. Today the existence and broadened scope of dance in academia are enveloped within all levels of formal education, but in the early decades of the 1900's, which was the infancy of dance education, dance was confined to the curricular offerings within colleges and universities. Preceded in its development by aesthetic dance in the early years of the 20th century, natural dance in the second decade of the 1900's, and creative dance in the 1920's, modern dance assumed its role within higher education during the 1930's (Kraus, 1969).

Between 1900 and 1930, the new education or progressive education under the leadership of Dewey, Hall, James and others, had significant impact on total education.

The influence...was felt in a new understanding of child nature; in an aggressive enthusiasm for "interest versus effort" in the learning process; and the beginnings of an appreciation of individual differences. (Van Dalen, Mitchell & Bennett, 1954, p. 422)

Physical education demonstrated its compatibility with the new educational concepts by reorienting the emphases on treating the body as an object to be physically trained to "influencing for good the entire individual - in mind and character as well as in body" (Leonard in Van Dalen, et al., 1954, p. 429). During these shifting trends in

physical education, dance became an accepted component of physical education programs and received recognition for its educational values (Jones & DeHaan, 1947), though according to H'Doubler (1925), this occurred only because of its ties with physical education. The new concern in education for the organic development of the individual was supported by early dance educators, who found their place, albeit small, in physical education (H'Doubler, 1925). The educational focus of dance between 1918 and 1930 coincided with that of general education (Hawkins, 1954; Martin, 1939).

The dance as a basic educator, along the lines of a theory that treats the individual as an integer, is obviously unique, for no other activity calls into play the three departments of the personality with such equality of emphasis and especially such unity of impulse. (Martin, 1939, p. 290)

Allowing the individual to discover and develop personal integrity through self-revealing experiences was a process dance educators believed lent richness and purpose to life (H'Doubler, 1925; Rogers, 1941). In its evolutionary stage, the natural or creative dance was oriented to that expressive process (H'Doubler, 1925; Jones, 1949; Radir, 1944). Thus, the self-discovery process with its purposes geared to individual needs, warranted the acceptance of dance as an educational tool.

In the 1920's when dance was coordinating its purposes with those of general education and becoming established in higher education, a potentially significant influence

developed outside the realm of education. Three American dance artists, Martha Graham, Doris Humphrey and Charles Weidman, revolted against the interpretive dance they had grown up with during the Denishawn period and independently embarked on personal journeys toward the discovery of a new modern dance (Sorell, 1967; Terry, 1971). Accompanied by Hanya Holm in the search for a new approach to dance, these artists explored dimensions of the art form heretofore untouched. Their movement theories led to discoveries of unique movement techniques (Hawkins, 1954; Martin, 1939; Sorell, 1967; Terry, 1971). Attention to the expressive nature of movement spawned fresh choreographic principles (Hawkins, 1954; Martin, 1949; Sorell, 1967; Terry, 1971).

In the 1930's college dance teachers turned their attention to the new modern dance (Hawkins, 1954; Kraus, 1969). According to Hawkins (1954), "this dance seemed to be the new development in physical education which they were seeking" (p. 12). Colleges and universities became sites where the professional dancers further explored and promoted their artistic concepts. Classes, demonstrations, concerts, and "points of view" were offered by the artists, and dance teachers hastily, and often without understanding, acquired physical techniques, compositional principles and theoretical concepts made available by the visiting artist situation (Hawkins, 1954; Kraus, 1969).

The dance artists' activities captivated dance educators. And as teachers increased their involvement with the artists, the educational purposes which originally had merited the acceptance of dance in education were neglected. Performance of the dance object overshadowed concentration on dance as a process for personal development. Student dance demonstrations and concerts abounded. What had been a medium whose original goals embodied individual creativity and expression, became an end in itself (Kraus, 1969). As the 1930's ended, dance education had evolved into a state typified by confused goals and purposes. The coalition between artists and educators during this time had resounding effects on dance education. Once the artists left the campuses for New York, dance education faced the dilemma of re-identifying educational purposes and values which would subsequently determine the future of dance in education (Hawkins, 1954).

Educational purposes and values. The purposes of dance education were intended to enhance the purposes of general education. As related by Margaret H'Doubler (1925) in her first book Dance and Its Place in Education, self-activity was the keynote of the current educational theory. Acknowledging that what the individual learned was a result of his interaction with the world about him, H'Doubler (1925) subscribed to the following concept:

The aim of all modern education is the freest and fullest development of the individual based upon a scientific understanding of his physical, mental, spiritual and social needs. (p. 31)

John Martin (1939) further identified the general educational tendency as one moving away from sole emphasis on scholastic endeavors towards

accepting broader responsibility of developing the whole individual, with a sense of relationship of his intellect to his hitherto neglected physical and emotional activities. (p. 289)

Hawkins (1954) concurred that education had as its focus the fullest development of the individual as promoted by the accumulation and integration of personalized experiences.

The educational aims subscribed to by H'Doubler and supported by other dance educators were the original premise for the inclusion of dance in education (Hawkins, 1954). According to H'Doubler (1925), dance served all of the ends of education.

It helps to develop the body, to cultivate the love and appreciation of beauty, to stimulate the imagination and challenge the intellect, to deepen and refine the emotional life, and to broaden the social capacities of the individual that he may at once profit from and serve the greater world without. (p. 33)

That dance should be a vehicle through which a student experienced and developed his mental, physical, social and spiritual capacities was a belief held by many dance educators (Hawkins, 1954; H'Doubler, 1925; Jones & DeHaan, 1947; Martin, 1939; Turner, 1957).

The creative nature of modern dance was regarded as a key factor that allowed for personal development (Hawkins, 1964; H'Doubler, 1966; Radir, 1944; Turner, 1957). Creation in dance was believed to satisfy one of the most fundamental needs of man, the need to express his emotional reaction to life (H'Doubler, 1925). It was felt that social needs were satisfied through opportunities which provided for the acceptance of other individuals and the sharing in their personal revelations (Hawkins, 1954; Jones & DeHaan, 1947). Experience with the creative process was thought to have a revitalizing effect upon the individual, thus enhancing his spiritual capacity (H'Doubler, 1925).

Dance education literature written in the 1950's suggested that the student-oriented approach prevalent in early dance education was maintained. Elizabeth Hayes (1955) in Dance Composition and Production, urged teacher sensitivity when working with students in creative efforts.

The student must be assured at least of a modicum of success in his efforts to solve creative problems, if feelings of inferiority and frustration are not to be the end product of such endeavor.
(p. 6)

Murray (1953) stressed the nurturance of individual creativity as a vital contribution to the individual's being and warned against the teacher setting artificial situations which threatened individual development. Turner (1957) recognized dance as an experience for all students

to participate in and to enjoy within the limits of their capacities. Creative involvement was to afford by-product values which were deemed as important as the immediate experience. Acknowledging the many facets of modern dance, Hawkins (1954) stated the following:

Modern dance can make a significant contribution to the development of the individual in the areas of self realization and human relations. In order to achieve these objectives, modern dance must be understood and taught in relation to the individual, his needs and his development. (p. 38)

Throughout the 1960's and 1970's, dance educators continued to support the tenet that through modern dance experiences, creative abilities develop and positive feelings about the self occur.

From each new creation one gains new knowledges, revealing new meanings and values that are applicable to his personal development as well as artistic growth. (H'Doubler, Arts in Society, 1976, p. 328)

Heightened self awareness and with it an element of discovery of self usually accompanies creative results (H'Doubler, Arts in Society, 1976). According to Mains (1977),

through dance, youngsters develop a positive self concept, through engaging in the creative process they learn to know themselves - the senses are educated and feelings are objectified. (p. 42)

Little (1977) identified dance as

the best medium for the development of creativity, independence, aesthetic sensitivity - perceiving and understanding feelings and expressing and communicating them to self and others. (p. 37)

Dance educators respect the values of meaningful activity. Modern dance, with creation as its basis, offers "meaningful experiences that provide a counterbalance for the high value now placed on technology, mechanization, and materialism..." (Hawkins, 1964, p. 8), and which tend to produce conformity and disintegrate the individual. Modern dance experiences aid individuals in synthesizing thoughts, feelings and ideas, and reassembling what should never have been separated (Martin, 1939).

Objectives, content and environment for the dance experience. Quality experiences which stimulate students' growth are those which provide satisfaction, arouse and stimulate interests, contain meaning, extend capacities, increase awareness and sensitivity, and promote values that are of artistic merit (Lockhart & Pease, 1975). Opportunities to investigate the body and its expressive movement potential exist within the creative components of modern dance. According to H'Doubler (1925, 1966), Hawkins (1964), and Lockhart and Pease (1975), the purposes of exploring the creative aspects of modern dance are directed toward the attainment of self-discovery, self-realization, increased creative potential, and heightened aesthetic awareness.

It is the teacher's responsibility to introduce students to basic ideas to be explored and to provide

students with a framework for idea development. Dance educators have stressed that consideration for students' abilities, interests, and needs should guide the selection and presentation of dance experiences (Hawkins, 1964; Hayes, 1955; H'Doubler, 1966; Radir, 1944). The teacher's selection of content and the subsequent developmental procedure is determined by classroom population as a whole and the broad purposes intended to be accomplished by the total experience (Hawkins, 1954; Jones & DeHaan, 1947). "Much of the teacher's planning for any situation must happen in the day to day context of activities" (Hawkins, 1965, p. 121). When working with students on creative components of the dance experience, the teacher needs to feel the freedom to stray from preplanned activities to deal with the immediacy of specific problems or new, more relevant directions (Hawkins, 1965; Lockhart and Pease, 1975; Turner, 1957).

In recognition of the need for flexibility in presenting and developing creative activities, several dance educators suggested general principles for designing dance experiences. Hawkins (1964) stated that the focus on dance as a creative experience should be concerned with "expression rather than imitation, and the emphasis should be on feeling, imagining and creativity" (p. 120). Because situations which require creative involvement can be potentially threatening to the student, Hayes (1955)

suggested that all tasks should be derived from the "known"; thus, the problem will not seem overwhelming and will allow for examination of the expressive potential. The use of familiar concepts as points of departure dissuades imitation and superficial investigation of material (Hayes, 1955). Though it is the teacher's responsibility for supplying the points of departure, Turner (1957) pointed out that it is the responsibility of the student to make decisions about the path of development. Because there is no system of rules, the student individually diagnoses the problem and searches for an answer that reveals logical and functional principles he or she can accept (Turner, 1957). Thus, it is the acceptance of students as they actually are, both spiritually and physically, that guides the teacher's work (H'Doubler, 1925).

The tenor of the classroom situation is influential on students' creative responsiveness. Dance educators have recognized that an atmosphere of freedom is vital to creative development (Hawkins, 1954, 1964; Hayes, 1955; H'Doubler, 1966; Little, 1966; Turner, 1957). A situation which encourages curiosity and experimentation and offers an opportunity for exploration is beneficial. In a study on concepts of creativity as related to modern dance, Little (1966) observed factors such as acceptance, tolerance, and understanding as favorable conditions in the environment. Little (1966) also reported that

negative elements which most often seemed to thwart creative production originated from authority, whereby too much imposed conformity stifled creativity. Hayes (1956) suggested that the authoritarian climate often results from the teacher's inability to accept the inexperienced student's creative product on the student's level, and thus attempts to reconstruct the product to conform with his or her own artistic standard. "Nothing will crush the creative spirit more quickly than dictatorialism in art" (Hayes, 1955, p. 8). An atmosphere of respect for the ideas of self and others is requisite to creative development in the classroom (Hawkins, 1964; Hayes, 1955; H'Doubler, 1925; Jones & DeHaan, 1947; Turner, 1957).

Related studies in modern dance and creativity and self-concept. The current literature includes no studies concentrated on creativity, self-concept and modern dance within the context of a single research investigation. A few comparison and relationship studies have been conducted which treated creativity and modern dance, or self-concept and modern dance and are reported in this review. Also reviewed in this section are recent studies which have focused on creativity and/or self-concept and physical skills.

Creativity and Modern Dance

Brennan (1976) investigated the relationship between creative ability in dance, field independence-dependence,

and attributes of creativity. Creative ability in dance was measured by three movement performance tests designed by Brennan and based on Guilford's concepts of fluency, originality and flexibility. An expert panel of judges also rated subjects on the same three factors. Field independence and field dependence were assessed by Witkin's Rod and Frame Test and Embedded Figures Test. Four Guilford Tests (the Alternate Uses Test, the Plot Titles Test, the Sketches Test and the Making Objects Test) and two questionnaires (the How Do You Think? survey and the Biographical Inventory-Creativity) were used to measure subjects' creative attributes. Sixty-one undergraduate and graduate dance major students were tested on the three constructs. Because creative persons and field independent persons appeared to have similar personality characteristics of self-confidence, independence in making judgments, self-assertiveness and self-direction, Brennan hypothesized the relationship between creativity in dance, field independence and creative attributes. Her investigation revealed no statistically significant interrelationships.

Little (1966) studied concepts related to the development of creativity in modern dance. Using 35 college women enrolled in two beginning modern dance classes, Little investigated three factors of creativity -- environment, process, and product -- as experienced by the subjects. One group of students (E group) was involved in guided

exploration and improvisation in a permissive environment. The second group (TE group) received instruction in technique, guided exploration and improvisation in a structured situation in which authority was imposed. Based on the subject's subjective evaluation of her own personal growth and composition products and the teacher-investigator observations, the E group showed enhanced growth in self and process. According to a panel of judges who rated the compositional products via a checklist designed by Little, the TE group demonstrated apparent growth in creativity over the E group. Little surmised that the apparent growth on the product factor was a result of a more developed physical technique, perhaps influencing experts' ratings.

Self-Concept and Modern Dance

Puretz (1973) compared the effects of modern educational dance and physical education on the self-concepts of disadvantaged inner-city elementary school girls. Using an experimental group of 75 girls and a control group of the same number, Puretz pretested, posttested and retested the groups on the Lipsitt Self-Concept Scale for Children. The experimental group received four months of modern dance instruction based on Laban's theories and the control group experienced unrelated physical education activities during the same period of time. Posttesting of both groups was conducted at the end of the four-month period and revealed significant increases from the time

of pretesting in self-concept test mean scores for the experimental group. Not only were mean scores for this group significantly different from pretest to posttest, but the posttest mean scores were also significantly different from the control group mean scores. Retests of essentially the same group three and one-half years later indicated that the initial beneficial effects of modern dance were still present in the experimental group, though posttest-retest data indicated a gradual loss of residual benefits. Based on the statistical analyses, Puretz's hypothesis that modern educational dance positively affects subjects' self-concepts was accepted. Because the control group mean test scores also increased, Puretz suggested that the nature of all organized physical activity may affect body image and thus influence the self-concept. She identified the "intrinsic expressiveness of this art medium" (Puretz, 1973, p. 57) as the factor responsible for the significant difference between the group mean scores.

As part of a study of body-image, self-image, movement concept, and kinesthetic arm positioning, Hann (1973) compared the differences between the body-image and the self-image of trained college women dancers and non-dance trained college women. Secord and Jourard's body-cathexis and self-cathexis tests were used as the measurement instruments. Based on the t test to determine the mean differences

between the groups, Hann found no significant differences between the body-image and self-image of the trained dancers and the nondance-trained group.

Related studies in creativity and physical skill.

Hasko (1972) investigated the relationship of motor creativity and creative-thinking ability in elementary school age children with regard to gender and grade level. Subjects were 60 boys and girls with equal numbers of males and females from grade levels two, four and six. The Wyrick Motor Creativity Test and the Torrance Test of Creative Thinking, Figural Form A, were used as the measurement tools. Hasko found no significant relationship between motor creativity and creative-thinking abilities. A difference was found in mean scores between males and females on the Wyrick test, but not on the Torrance Test. The average mean T-scores showed that motor creativity increased for males from the second grade to the fourth grade and again from the fourth grade to the sixth grade. Female subjects' mean scores on motor creativity dropped between the second and fourth grade and increased from the fourth grade to the sixth grade. In creative-thinking abilities, males' scores continually increased from grade two to grade six, while scores for female subjects increased between the second and fourth grades and decreased in the sixth grade.

Related studies in self-concept and physical skills.

Changes in body-concept and self-concept among college students who learn to swim were investigated by Sheppard (1971). A secondary aim within the study was to determine if the effects were related to the subjects' gender and to the amount of acquired swimming proficiency. In reference to the two primary variables, body-concept and self-concept, Sheppard hypothesized that learning to swim would have positive effect on each independent variable, and that the effect would be greater in college males than in college females. She also hypothesized that the greater the acquired swimming proficiency, the greater the increase in each independent variable. Using Osgood's Semantic Differential Technique, Secord and Jourard's Body Cathexis Scale, Bills Index of Adjustment and Values, and the Fox Power Test as the measurement tools, Sheppard tested 50 experimental subjects and 50 control subjects. According to Sheppard, the results of the data analyses did not allow for any conclusions to be drawn regarding the effect of learning to swim on body-concept nor self-esteem or self-acceptance. Results did support the conclusion that learning to swim had a positive effect on self-description. There was no evidence that these effects interacted with classification by sex.

Christian (1969) studied the relationship of levels of physical fitness and self-concept of a selected group

of college males. A sample of 189 males was used in this study and was evaluated by the Tennessee Self-Concept Scale (TSCS). A battery of four physical efficiency tests served to determine subjects' physical fitness status. The tests were used as both pretest and posttest measures. To answer the questions: (1) what relationship exists between initial measurement of physical fitness and initial measurement of self-concept?, (2) as physical fitness levels are changed, is there a corresponding change in self-concept?, and (3) is knowledge of improvement in physical fitness related to change in self-concept?, Christian divided the sample into three groups. Group A, the control, received instruction only in archery, while subjects in Group B received physical fitness training and reports of their progress. Group C received the same training as Group B, but subjects did not get reports on their physical fitness improvement. At the end of the six week experimental period, Christian found no significant relationships between changes in self-concept and level of physical fitness. He did find a significant improvement in the physical fitness level of all three groups and a significant difference between the mean physical fitness scores of the control group and both experimental groups.

A comparison of the effects four teaching techniques had on subjects' physical fitness and self-concepts was the topic of a study conducted by Hughes (1973). Four

experimental classes composed of a total of 78 female college students were used in the investigation. Each of the four groups received different teaching techniques in body conditioning, ranging from completely structured exercise to completely nonstructured exercises. All groups were pretested and posttested on the Tennessee Self-Concept Scale (TSCS), the University of Utah Physical Fitness Test for Women, and the Harvard Step Test for Women. Hughes hypothesized that there would be no significant differences among the four groups relating to the pretest and posttest scores on the physical fitness factors and the pretest and posttest scores on seven selected segments of the TSCS. It was also hypothesized that there would be no significant differences between pretest and posttest scores relating to physical fitness and the seven segments of the TSCS and that the relationship between total posttest scores for all groups on physical fitness and the total posttest self-concept scores would be low. The results showed that the four teaching techniques produced no significant statistical differences among the four groups relating to physical fitness and self-concept. According to Hughes (1973) calculations revealed "that the power of the test within each phase was less than 0.67 which was below the established 0.75 value required for true nonsignificance ." (p. 58) Thus, final judgment was reserved.

Additional results were reported which indicated that the group receiving the teaching technique of structured exercise combined with information concerning exercise showed a significant difference between pretest and posttest scores on the total positive score and the personal self and self satisfaction segments of the TSCS. The group that received completely nonstructured exercise showed a significant difference between pretest and posttest scores on the social self segment of the TSCS. No correlation was found between the total posttest scores for all groups on physical fitness and self-concept.

Black (1976) utilized the TSCS in his investigation of the relationship of self-concept to physical skill in athletic participation. The study was designed to offer evidence on the differences in total self-concept scores among varsity athletes and nonparticipants in varsity athletics and among individuals within these groups classified as high and low skilled. The Barrow Motor Abilities Test was utilized to classify skill levels. Black selected the TSCS in order to obtain scores also on physical self, moral-ethical self, personal self, family self and social self. Data collected from the 151 varsity athletes and the 151 nonparticipants revealed no significant differences between the two groups in overall self-concept and its parts. No significant differences were found between the total P scores of individuals of high and low physical skill. Black

reported a trend occurred in the relationship between levels of physical skill and selected aspects of the phenomenal self; namely, physical self, moral-ethical self, and the family self. In each case of a high skill score, a high self concept score occurred. Black's final conclusion was that there are no differences between individuals of high and low skill in overall self-concept, personal self and social self.

In a study by Albins (1972) an attempt was made to establish the relationship between self-concept and motor performance of sixth-grade girls, eighth-grade girls and college women. Using the TSCS to measure self-concept and the Photoelectric Rotary Pursuit Tachometer, the Mirror Tracer and the Daken Automatic Performance Analyzer to assess motor performance, Albins tested 90 female subjects, 30 each per grade level. The only significant relationship found was one between performance scores on the pursuit rotor and the TSCS for eighth-grade girls.

Creative-Thinking Abilities

Overview. A review of the literature on creativity revealed no definition of creativity that was accepted unanimously by experts in that field of study. Torrance (1970) indicated that the problem of definition has been confused by the fact that creativity may be composed of abstract behaviors which are infinite in number and whose essence defy definition. He suggested that it may be

possible to describe only the characteristics of creativity as they relate to the person, the process or the product.

Research that focused on identifying the characteristics of the creative personality became an object of scientific study primarily because of the general interest in individual differences (Guilford, 1968). Studies into the nature of the creative individual usually have concentrated on a trait point of view (I. A. Taylor in I. A. Taylor & J. W. Getzels, 1975). During the 1940's Roe (1946) pioneered research in personality characteristics of highly creative painters and scientists. She found curiosity, persistence, high energy level and a need for independence to be characteristics of research scientists and a strong motivation to succeed to be a trait possessed by both painters and scientists. From early youth on, more of the creative individuals than not had exercised independence in decision making.

Barron (1963) investigated the relationship between creativity and independence of group judgment. By establishing a situation which required subjects to either reject or conform to group pressure, Barron identified individuals who demonstrated the independence characteristic or the yielding trait. He studied differences between "independents" and "yielders," in respect to creativity and originality as well as a spirit of open mindedness, a high degree of personal involvement and emotional

excitability, and a lack of social ease combined with an absence of commonly valued social virtues (Barron, 1963). The yielders most consistently viewed themselves as easy and helpful in interpersonal relations, effective in achieving goals, and stable and healthy-minded. Within the context of the study, Barron hypothesized that the independents would be more likely than the yielders to deal comfortably with complex and contradictory phenomena. Because independents demonstrated a greater preference for complex designs and figures than the yielders when tested on the Barron-Welsh Art Scale, the hypothesis was confirmed.

Schaefer (1969) conducted a study on the self-concept of creative adolescents which revealed findings similar to those of Barron. Eight hundred male and female high school students were subjects of Schaefer's research. The criterion for assessing creativity was a combination of teachers' evaluations and scores on Guilford's Alternate Uses and Consequences Tests. Control subjects were nominated by teachers as having demonstrated no concrete evidence of creativity. They also scored below a cutoff point on the Guilford tests. The Gough Adjective Checklist (ACL), a checklist consisting of 300 self-descriptive adjectives, was used as the measure of self-concept. Item analysis on each of the 300 adjectives revealed that the creative individuals regarded themselves as creative, independent, uninhibited, iconoclastic, complicated and asocial

(Schaefer, 1969). According to Schaefer (1969) the control group presented a "remarkably consistent picture of passive conformity: dependable, cooperative, contented, conventional, quiet and silent" (p. 238). Schaefer also observed that creative adolescents were very similar in personality despite differences in sex and creative specialities.

Phillips (1973) investigated the relationship between creative performance, personality profile, and self-description of 100 undergraduate college students. The Torrance Test of Creative Thinking (TTCT), Verbal Form B, the What Kind of Person Are You? checklist and the Omnibus Personality Inventory (OPI), Form F, were administered to measure creativity level, creative self-description, and personality respectively. Subjects were ranked from lowest score to highest score on the TTCT measure. A median split defined the high and low creative groups. Comparisons were made between the groups in terms of personality patterns and self perception variables. Mean scores on all but two scales within the OPI were higher for the high creative performance than for the lower group. The masculinity-femininity scale mean scores and the practical outlook scale mean scores revealed no significant differences between the two groups. The high creative performance group differed significantly from the low group on thinking introversion, theoretical orientation,

estheticism, complexity, autonomy, religious orientation and impulse expression.

Mackinnon's studies of highly creative people focused on research scientists, writers, mathematicians and architects (I. A. Taylor, in I. A. Taylor & Getzels, 1975). He found that highly creative persons stress their inventiveness, independence, individuality, enthusiasm, determination, and industry. Less creative individuals stress virtue, good character, rationality and concern for others (Mackinnon cited in I. A. Taylor & Getzels, 1975). Like Barron, Mackinnon observed that creative persons could handle the conflicting and complex opposites in their nature, tolerating increasing amounts of tension as they strive for creative solutions to problems which they set for themselves.

Roe (in A. Rothenberg & C. R. Hausman, 1976) summarized studies which focused on the personality of creative individuals.

Creative persons are usually open to experience. They are particularly observant and often see things in unusual ways. They are extremely curious. Their willingness to see what is there applies to perceptions of self as well as to the outside world, making it possible for them to admit unconventional thoughts, accept and reconcile apparent opposites, and be tolerant of ambiguities. Disorder does not too greatly dismay them, but they like to be able to resolve it. They prefer complexity and manage to come to an aesthetic ordering of experience. (p. 170)

Roe also noted personality characteristics such as independence, self-reliance, high ego strength, and persistence as typifying the creative individual.

The nature of the creative process has been investigated by a number of creativity experts. Wallas theorized four stages involved in the development of creative ideas. He identified those stages as: (a) Preparation - the problem exploration phase; (b) Incubation - the period when the individual is not consciously concerned with the problem; (c) Illumination - the stage when the "happy" idea occurs; (d) Verification - the validation or testing of the idea resulting in reducing the idea to its exact form (Wallas, cited by Stein in Parnes, 1962).

Themes relating to the four stages of the creative process as identified by Wallas appear in other experts' descriptions. Ghiselin (1952) defined the creative process as one "of change, of development, of evaluation, in the organization of subjective life" (p. 2). "Creation begins typically with a vague, even a confused excitement, some sort of yearning, hunch, or other preverbal intimation of approaching or potential resolution" (Ghiselin, 1952, p. 4). The process is typified by states of involuntary and voluntary activity on the part of the creator. In the involuntary states, the mind is free from preoccupation with specifics and yields to the oceanic consciousness. It is a period

of self-surrender in which the creator rejects established order and reality (Ghiselin, 1952). The stage Wallas identified as incubation most commonly occurs within this state. Voluntary activity occurs on the conscious level of functioning and leads to the final state of verification. Ghiselin noted mastery of accumulated knowledge, gathering new facts, observing, exploring, experimenting, developing technique and skill, sensibility and discrimination as conscious and voluntary operations. These voluntary operations tend to occur during the preparation and verification stages.

Roe (in Rothenberg & Hausman, 1976) spoke of the creative process as being akin to other modes of thought. Thought similar to problem solving, creative processing differs from that thought style in several ways, according to Roe. In the creative process there is not a clear, specific goal, as there is in problem solving, and the modes of thought appear to be illogical, whereas in problem solving logical and orderly modes of approach are appropriate. Creative production emerges from individuals' background of absorption in a topic and begins in a state of imaginative suspense (Roe in Rothenberg & Hausman, 1976). Roe stated that no known technique for speeding up or calling forth the coalescence of the multitude of ideas and feelings exists. Coalescence usually occurs without

voluntary effort and almost invariably during a moment of dispersed attention.

Presence of conscious/unconscious or voluntary/involuntary activity throughout the creative process has been acknowledged by creativity authorities (Barron, 1969; Ghiselin, 1952; Roe, 1946). Getzels and Csikszentmihalyi (in Rothenberg & Hausman, 1976) conducted an experiment on 31 male fine arts students in an attempt to establish the role of the conscious mental process in the act of creating. The subjects were furnished a number of objects to be drawn. The artist could select as many or as few objects as he desired, and he could arrange the objects according to his preference. An account was kept of the artist's behavior before he began to draw and during the drawing process. Interviews were held with the artists upon completion of the drawing experiment. The purpose of the interview was to reconstruct as closely as possible the artist's awarenesses while engaged in the experiment. Based on the experimenter's observations and records of behavior and a panel of experts' ratings of the artists' work, the findings were that the drawings rated most original and artistically most valuable were the ones produced by students who had handled the most objects, closely explored the objects they handled, and selected the most unusual objects to draw. The most skillful drawings were not always the most original. Interviews of the artists

rated most original and artistically valuable revealed that the artists were more concerned for consciously pursuing discovery than expressing feeling or reproducing beauty.

This concern for discovery set apart those who were interested in formulating and solving new artistic problems from those who were content merely to apply their technical skill to familiar problems capable of more or less pat solutions. (Getzels & Csikszentmihalyi, in Rothenberg & Hausman, 1976, p. 164)

The creative process yields a creative product. Descriptions of the creative product are numerous, but the concept, the production of something new, is included in almost all definitions (Torrance, 1974). According to Mackinnon (I. A. Taylor & Getzels, 1975)

creative products range from such concrete and tangible objects as a piece of sculpture or a physical invention to such intangibles as leadership or providing educational and business climates which permit those in them to express to the full their creative potential. (p. 69)

Qualitative differences among creative products are acknowledged to exist, as in the work of a genius, and the work of a child, but the same basic elements of creativity appear at all levels. The product which is derivative of the creative process has been characterized by its originality, novelty and revelation of new and unique relationships of ideas and actions (C. Taylor, cited in Gowan, Demos & Torrance, 1967; Simon in Gowan et al., 1967). Some creativity experts proposed that the worth of the creative product lies in its creation of new conditions

of human existence and generation of additional creative activity (Barron, 1969; I. A. Taylor in I. A. Taylor & Getzels, 1975).

Jackson and Messick (1965) identified several criteria which characterize a creative product. The novelty of the product, which is also referred to as originality, statistical infrequency or unusualness, is one criterion. The "correctness" and the "goodness" of a product is a second criterion. The "correctness" concept has to do with the degree to which certain objectives have been satisfied. The worth or value of a person's response to the product is considered the criterion of "goodness" (Jackson & Messick, 1965). Transformation, a third criterion which characterizes the creative product, is concerned with the redefinition of reality or the new perspective regarding something that is promoted by the new creation. A final criterion identified by Jackson and Messick (1965) is condensation, or the way in which the product unifies a great deal of information and expresses it in a highly condensed form.

Criteria which differentiate between more and less creative thoughts, actions or objects also provide a basis for the identification of more or less creative persons. Mackinnon (in I. A. Taylor & Getzels, 1975) has suggested that by evaluating a person's productions,

judgments can be made about the individual's creative capacity. He stated that,

indeed, whether one chooses to study the creative person, the creative process, or the creative situation, one must...identify them through a critical assessment of products created by a given person, through a given process, and in a given situation. (Mackinnon in I. A. Taylor & Getzels, 1975, p. 71)

The product is expressive of the individual's perceptions, motivations and needs which were in existence previous to and during the period of creation. Products which are judged as being more or less creative reflect upon the originator's creative disposition (Ghiselin, 1952; Mackinnon in I. A. Taylor & Getzels, 1975).

Research into the nature of creative thinking, an attempt to better understand the phenomenon of creative imagination, was initiated during the 1950's by J. P. Guilford. Guilford originally hypothesized that creative thinking involved seven separate, distinct abilities: sensitivity to problems, fluency of ideas, flexibility of thinking, originality, ability to analyze information, ability to synthesize information, and ability to redefine (Guilford in Duenk, 1966). In approaching his study of creative thinking abilities, Guilford (1968) rejected the doctrine that intelligence was a single, monolithic ability and that creative abilities exist outside the realm of intelligence. It was also assumed that the existence of creative talents was not exclusive, but

distributed to different degrees throughout the population. Guilford (1968) identified two categories within his "structure of intellect" model that he believed to be most relevant for creating thinking. Those categories and their specific creative thinking components were as follows:

Divergent-production (DP) abilities - pertains to the generation of ideas where variety is important. Some DP abilities have been characterized as kinds of fluency, some as kinds of flexibility and others as elaboration activities. The varieties of abilities depend upon the kind of information and media with which the person is dealing. (Guilford, 1968)

Transformation abilities - pertain to revising what one experiences or knows, thereby producing new forms and patterns. Readiness to be flexible is a general characteristic of this group of talents, where flexibility leads to reinterpretations and reorganizations. (Guilford, 1968)

By examining creative-thinking abilities within the larger context of the structure of the intellect, Guilford suggested that the processes encompassed in creative thinking are made more available for understanding.

E. P. Torrance pursued the study of creative-thinking abilities through development, administration and analyses of sets of creative-thinking tasks presumed to depend on the creative process. Torrance's efforts focused on factors affecting creative growth. Because diverse definitions of creativity existed and none was exacting enough for his research purposes, Torrance (1974) defined creativity as:

a process of becoming sensitive to problems, deficiencies and gaps in knowledge, missing elements, disharmonies, and so on; identifying difficulty; searching for solutions, making guesses or formulating hypotheses about the deficiencies; testing and retesting these hypotheses and possible modifying and retesting them; and finally communicating the results. (p. 8)

Torrance (1974) rendered this definition of creativity because it seemed to allow for operational definitions of the kinds of abilities, mental functions, and personality characteristics that encouraged or inhibited the process and

also provided an approach for specifying the kinds of products that result from the process, the kinds of persons who can successfully engage in the process, and the conditions that facilitate the process. (p. 8)

A criticism of Torrance's definition of creativity has been that it appeared not to distinguish between creativity or creative problem solving and other types of problem solving (Torrance, 1974). Simon appeared to be partially aligned with critics of Torrance's definition. "Problem solving is a highly selective, trial-and-error search in an enormous, geometrically-branching maze of possibilities" (Simon in Gowan, Demos, and Torrance, 1967, p. 45). Simon characterized creative problem solving as a process that involved a more in depth search for a solution and that search was less highly organized and less rational than was routine problem solving. He offered the hypothesis that the one characteristic which distinguishes between creative problem solving and other problem-solving

processes was the "uniqueness" of the product (Simon in Gowan, Demos and Torrance, 1967).

The criteria subscribed to by Torrance (1972) for assessing the degree of creativity involved in problem solving were as follows:

1. the product of thinking has novelty and value, either for the thinker or for his culture. (p. 2)
2. the problem as initially presented is vague and undefined so that the statement of the problem itself has to be formulated. (p. 2)
3. the thinking involved requires high motivation and persistence and is unconventional in the sense that it requires modification or rejection of previously accepted ideas. (p. 2)
4. the product is true generalizable, surprising in the light of what the learner knew at the time thinking occurred. (p. 2)

In establishing the comparability between problem solving and creative-thinking abilities, Torrance (in Davis, 1968) referred to creative-thinking abilities as "that constellation of generalized thinking abilities that is commonly presumed to be brought into play in creative achievements" (p. 276).

Educational implications of creative thinking. Society seeks the development and maintenance of certain positive values within its membership. Traditionally, educational institutions have been major sites for advancement of these values.

The fullest possible flowering of human potentiality is the business of education... Whatever we decide is the nature of the fully functioning, self-actualizing individual must become at once the goal of education. (Combs, 1962, p. 2)

C. Taylor (1964) concurred that the development of fully functioning individuals was an avowed purpose of education and that education should help all individuals toward the fullest realization of their talents. The tendency to develop memory capacity, factual information and other so-called intellectual accomplishments has been disproportionate to the nurturing of less easily defined talents (Moustakas, 1956; C. Taylor, 1964). If the individual's quest for knowledge is to be personally meaningful, the subject matter must have relevancy to his or her being. Moustakas (in Mooney, 1967) asserted that any dimension in life is a resource for extending the learner's knowledge, appreciation, understanding and awareness. Whether or not the learner expands upon the resources depends upon the paths allowed for exploration. Often, only one path has been available and that one has been imposed from without. "If the intellectual capacities of the individual are to be fully developed, the abilities involved in creative thinking cannot be ignored" (Taylor, 1964).

The importance of creative thinking development is embedded in the concept of the fully functioning, self-actualizing individual. Creativity is a chief factor in individuals' tendency to actualize themselves and achieve their potentials (Rogers, 1961; Maslow in Combs, 1961).

In supporting the vitalness of the creative process, May (1975) reflected that it should be regarded as "representing the highest degree of emotional health, as the expression of normal people in the act of actualizing themselves" (p. 40).

Creative thinking has been regarded both as a process and a method for improving creative behavior. The creative-thinking process is inherent within conditions which evoke divergent production and redefinition (Torrance, 1972). As an approach to learning, creative-thinking abilities can be applied to a myriad of subject matter areas, not just to those of art. "Many important things, though not all, can be learned more effectively and economically in creative ways rather than by authority" (Torrance, 1972, p. 1). Taylor (1974) researched the authoritarian versus creative approach in teaching and discovered that not only was learning more economical, but that it was a viable option to learning for those individuals who cannot respond to an authoritarian approach.

Methods have been designed to develop creative-thinking skills. Special courses exist which focus on procedures presumed to enhance individuals' creative abilities.

The application of these deliberate, disciplined methods increases the chances, but does not guarantee that truly original, creative solutions will be produced. However, when such methods are not used, rarely does anything more than marginal improvement result (Torrance, 1970, p. 78).

A course conducted by Parnes at the Institute for Personality Assessment and Research followed a five-step procedure for developing creativity (I. A. Taylor in I. A. Taylor & Getzels, 1975). Those steps included fact finding, problem finding, idea finding, solution finding, and acceptance finding. Three blocks to creative thinking were demonstrated and discussed in the course and each block was investigated in respect to specific problems. Investigation of the perceptual block included problem isolation and over distillation, inability to define or isolate attributes, and failure to use all senses in observation. Emphasized in the cultural and emotional blocks were the effects of conformity, failure, fear of mistakes, competition, cooperation, and reliance on authority (Parnes, in Davis, 1971). Parnes (1962) implemented several principles and methods aimed at developing ideas via creative processing and incorporated them in his creative thinking courses. Those principles and methods were as follows:

Deferred judgment principle: artificially separating creative from judicial thinking at various stages of problem solving; ideate first, judge afterwards.

Attribute listing: learning to look at problems from a variety of viewpoints; examination of all characteristics of an object then suggesting a number of uses of the object.

Checklist procedure: analysis of a problem from the standpoint of a number of questions, such as simplification, utilization, adaptation of an object or idea.

Forced relationship: artificially relating ideas which are tentative solutions of a problem to each other in order to force new combinations. The new combination may be a somewhat ridiculous idea but by associating this new idea with the original problem, a series of associations is produced which leads to a novel solution.

Also stressed was the importance of recording ideas at all times, setting deadlines and quotas for production of ideas and establishing certain times and places for deliberate idea production. Brainstorming, synectics, and sociodrama are three examples of other methods used for developing creative-thinking process skills (C. Taylor, 1964; Torrance, 1970). The value of process skill development is in the applicability of the skills to many different pursuits. Whereas there is question whether creative habits learned in art courses transfer to activities outside the art context, evidence suggests that the development and practice of deliberate creative problem-solving skills avail the possessor to consciously apply them as needed (Guilford in Parnes, 1962; Torrance, 1972).

Research tools. Creativity experts have recognized the lack of adequate procedures for evaluating creativity. Treffinger, Renzulli and Feldhusen (1971) identified two general problems which hampered the assessment pursuit. The first problem was that no single, widely accepted theory of creativity served to unify and direct researchers in developing a general and valid assessment tool. A result of this situation was that numerous creativity tests

exist, each one based on the originator's own definition of creativity or an aspect of creativity.

A second problem in assessment of creativity was the lack of external criteria against which the validity of creativity tests could be assessed (C. Taylor, 1964; Treffinger et al., 1971; Yamamoto in Mooney and Razik, 1967).

Many researchers have tended, on the one hand, to view creativity entirely as a cognitive process, or on the other hand, as a complex set of personality traits. The former have tended to ignore the possibility that there may be an affective component to creativity, and the latter have tended to overlook the importance of underlying cognitive abilities in creative problem solving. It is most likely, however, that a valid assessment procedure would, of necessity, consider both components. (Treffinger et al., 1971, p. 108)

To establish external criteria for creativity, several methods have been tried. Such methods include teacher and peer nominations, creativity profile analyses and product evaluations (C. Taylor, 1964; Torrance, 1974; Treffinger et al., 1971). These sources of criteria have been investigated by creativity experts primarily for applicability to creative potential. Measures such as the Barron-Welsh Art Scale (1952), the Minnesota Multiphasic Personality Inventory (1943), the California Psychological Inventory (1957) and the Adjective Checklist (1965) have been used for assessing individuals' creative potential (I. A. Taylor in I. A. Taylor & Getzels, 1975).

Two major test batteries have been developed to measure creative-thinking abilities. The batteries are the Guilford Creativity Battery and the Torrance Tests of Creative Thinking. Guilford's tests evolved from his investigations of intellectual abilities which resulted in the Structure of Intellect (SI) model (Guilford, 1968). The SI model rendered 120 separate, measurable mental abilities and afforded a redefinition of intelligence so as to include creative behaviors. As of 1966, Duenk reported that 141 tasks had been developed to measure 53 mental abilities. Included in these tests were divergent production tasks which measured originality, fluency and flexibility, three major components of creative-thinking abilities (Guilford, 1968). Examples of tests originated by Guilford and his associates include the Alternate Uses Test, a measure of spontaneous flexibility; the Consequences Test, a measure of ideational fluency and originality; and, the New Uses Test, a measure of flexibility.

E. P. Torrance has been a major contributor to creativity testing. Utilizing Guilford's divergent production concepts as a basis, Torrance developed test batteries which measure four components of creative thinking (Razik in Mooney and Razik, 1967; Torrance, 1974; Treffinger et al., 1971). Each battery, whether verbal or figural in form, produces scores for fluency, flexibility,

originality and elaboration. The figural tasks of the TTCT include three activities and also produce combination scores for fluency, flexibility, originality, and elaboration.

Self-Concept

Overview. Until late in the 1940's, study in the area of self-concept was limited (Wylie, 1961). Influences against "self" research have been accorded to behavioral and functional psychologists who dominated the American scene during the second, third and fourth decades of the twentieth century (Wylie, 1961; Gergen, 1971). Not until a fusion occurred between psychological theories of cognition and motivation with psychoanalytical and psychodynamic theories was importance assigned to phenomenal and/or non-phenomenal self-concept research (Wylie, 1961). The phenomenal self-concept, which is attended to in this overview, refers to "the self as the individual who is known to himself" (Wylie, 1961, p. 1). This definition implied the individual's conscious awareness of his or her behavior.

As is well known, self-concept theorists believe that one cannot understand and predict human behavior without knowledge of S's conscious perceptions of his environment and of his self as he sees it in relation to the environment. Because of this central role accorded to conscious perceptions, cognitions, and feelings, these theorists have often been labeled "phenomenological". (Wylie, 1961, p. 8)

Rogers (1961) maintained that by limiting references to the phenomenal self, or events of awareness, "the construct can be given increasingly refined operational definition"

(p. 245). Within the total construct of viewing the self, there exist various components which organize the individual's definition of his unique being. Self-acceptance, self-awareness, and self-realization are but a few of these components (Gergen, 1971).

Psychologists involved in the study of self-concept view it as a central construct for the understanding of people and their behavior (Fitts, Adams, Radford, Richard, Thomas, Thomas, & Thompson, 1971). The basis for this view stems from the principle that individuals react to their world in the way they perceive and experience that world (Fitts, 1972; Gergen, 1971). Thus the person's perception of this interaction is the self-concept. As LaBenne (1969) stated,

self-concept is the person's total appraisal of his appearance, background and origins, abilities and resources, attitudes and feelings which culminate as a directing force in behavior. (p. 10)

A problem in understanding individuals lies in the inability of others to perceive the individual's phenomenal world as he or she perceives it.

How a person behaves will be a direct outgrowth of the way things seem to him at the moment of his behaving. To change behavior in this frame of reference requires that we understand the nature of the individual's perceptual field. Knowing the meanings that exist for a particular person, we may then be able to create the conditions which will facilitate changes in his behavior and personality. (Combs, 1961, p. 50)

Fitts (1972), in agreement with Combs and other self theorists, observed the necessity of understanding behavior via

the understanding of perceptual worlds, but, stated Fitts (1972), "since this is impossible, our closest approximation is to understand the ... individual's self-concept" (p. 3).

Individuals are not born with a prepackaged self-concept. Concepts about the self are predisposed to development throughout life. As the person experiences his or her personal self in relation to the perceived world, the self-concept becomes shaped into a relatively fixed and stable construct (Fitts et al., 1971; Purkey, 1970). The stability of the self-concept acts as a frame of reference or guide for the individual's actions within the shifting environment. More specifically, Gergen (1971) identified three ways the self-concept aids the individual. First, in problems of social interaction, the individual can be realistic in ways in which he or she views himself/herself and accepts others' reactions to him/her. Certain evaluations of one's behavior might lead to the acceptance or rejection of that behavior. A second function of the self-concept is that it allows the individual to form generalizations about the personal self that persist over time. "Knowledge about self is thus allowed to accumulate, and the individual need not engage in constant relearning" (Gergen, 1971, p. 24). Thirdly, the availability of self-concepts promotes the individual's ability to summarize self observations in brief conceptual form. Thus

communication to others about who one is becomes facilitated. According to Gergen (1971), an individual who does not have in his or her possession several self labels has difficulty in contemporary society.

Concepts which comprise individuals' frames of reference are processed from sensory data which are cognitively categorized for understanding and which become more or less meaningful to the individual through reinforcement. The individual's definition and experience of the perceived world is dependent upon factors such as differentiation, salience, consistency and self evaluation. Differentiation refers to distinguishing and classifying a wide array of stimuli. Jourard and Remy (cited in Wylie, 1961) defined differentiation as "the subject's recognition and differential response to the various parts of which the total self is comprised" (p. 113). The amount of differentiation depends on reinforcement or rewards or punishment.

Language learning undoubtedly has a great deal to do with the amount of differentiation that occurs. Learning how to apply words to various stimuli is learning ways of grouping these stimuli. In effect, the person with a larger vocabulary has more potential for rapid and precise grouping of various phenomena. (Gergen, 1971, p. 30)

One implication of the differentiation factor in self-concept theory is that individuals are confluent beings made up of complementary components. This theory implies that individuals operate in several different roles and within

each role exists a constellation of functions and responsibilities. Though Gergen (1971) and others have utilized the concept of "housewife" to reveal the intricacies of differentiation, other analogies seem to be as relevant, for example, an office holder in a savings and loan corporation. Besides responding to the Board of Directors on the financial situation of the corporation, an individual functioning in this capacity concurrently fulfills ancillary responsibilities responding to clientele needs, training employees and balancing and reconciling accounts. Within the broad category of "office holder," there exist diverse behaviors. Lack of success in one behavior is not interpreted as lack of success in the total role. Insufficiency in one self aspect is not reflective of the person's totality. Differentiation acts as an insulation and protective process.

Salience, according to Gergen (1971), accounts for the differential use of concepts from moment to moment and is influenced by the amount of learning, the stimulus situation and motivation. The amount of learning or training an individual has with a given concept has been viewed as an essential determinant of salience. A continuously high degree of success of a concept implies that the individual organizes his or her world around successful concepts or those concepts which have received positive social reinforcement. The stimulus situation at a given moment

determines the saliency of a concept. "Learning takes place within specified situations; thereafter, these situations serve as stimuli for the cognitive and behavioral responses learned therein" (Gergen, 1971, p. 32). Motivation, a third influence on saliency, is the identification of a need and fulfillment of the need. As determined by these three elements, saliency facilitates an individual's flexible behavior within the perceived world.

Consistency in reference to self-concept development and maintenance implies logical relatedness among all self aspects. Generally each person manages to reconcile his seemingly diverse behaviors into one self-consistent whole (W. Mischel & H. Mischel in T. Mischel, 1977). The opportunity for inconsistencies to develop in the way one sees oneself is prevalent, but the need for continuity seems stronger. According to Gergen (1971) the extent to which one feels the need to resolve inconsistencies depends on several factors, including cognizance of the inconsistency, the functional value of the concepts in question, and the amount of training in inconsistency reduction. As acceptance or rejection of the concept occurs, reorganization of other self aspects results.

One's evaluation of self is an emotion laden determinant of the self-concept. Thinking and reasoning enable the individual to comprehend the world at large. Accompanying the process of comprehending the environment are

emotional associations that provide personal meanings. Various sources of reinforcement tend to persuade the individual's evaluation of concepts, thus the implication is that evaluative weighting is learned (Gergen, 1971). "Self-evaluation...arrives rather directly from evaluations made of individuals by others" (Purkey, 1970, p. 30). A person's evaluation of self may shift over a period of time or, it may shift instantaneously and remain only briefly. The intensity of the learning situation seems to determine changes in self-evaluation (Snygg & Combs, 1949).

By definition, an individual cannot exist outside his or her perceived world. The person's phenomenological self develops through myriad experiences and is refined, enhanced and maintained in his or her ongoing encounter with the world. Out of the perceived world, the individual establishes significant beliefs which substantiate the self definition. Peripheral concepts also exist as "lightly held beliefs" (Purkey, 1970, p. 9). The degree of significance a person accords concepts tends to establish self-concept stability.

Educational implications. An understanding of self-concept as it relates to the educational environment appears to provide a basis for developing a more fully functioning individual (Kelley, in Combs, 1962). As education moves away from encouraging knowledge about everything exclusive of the self, it is important for educators to

know in general how an individual views himself, how that view developed and what factors may be influential in modifying that concept.

An individual's definition of himself is formed by the age of two-and-one-half years to three years (Gordon, 1972; Purkey, 1970). Information utilized in identity formation is provided by parents or other significant persons present during this period (Kelley, in Combs, 1962; Purkey, 1970; Snygg & Combs, 1949). Thus by the time the child enters school, he or she enters with a set of predispositions. Kelley (in Combs, 1962) postulated that authoritarianism in the home setting is an influence on the child's learning predisposition. In the home environment parents control personal associations and condition "appropriate" behavioral responses (Kelley, in Combs, 1962).

After five or six years of the authoritarian home, the child goes to school. The school is a place inhabited by adults and too often these adults hold adult concepts of what a child ought to be. (Kelley, in Combs, 1962, p. 12)

Because standardized, preconceived notions exist about the student and the educational procedure, the child is led towards conformity via coercion, correction and criticism. The child's acceptance of conformity negates possibilities of unique and individual growth.

According to Purkey (1970), children enter school with an inclination toward achievement or underachievement, thus an orientation towards success or failure

already exists. The teacher, by becoming a significant person in the student's perceived world, is in control of providing experiences which determine the development of the achievement predisposition (Brookover, 1966; Snygg & Combs, 1949). The cultivation of the student's achievement greatly depends on the provision of individually meaningful experiences (Jersild, 1970; Kelley, in Combs, 1962; Purkey, 1970; Snygg & Combs, 1949). Meaningful experiences are those which are:

personally significant beyond the facade of facts, subject matter, logic and reason, behind which human motives and a person's real struggles and strivings are often concealed. This does not mean the rejection of subject matter, but it does mean helping the learner to relate himself to what he is learning and to fit what he learns into the fabric of his life in a meaningful way. (Jersild, 1970, p. 80)

In neglecting student's personal needs and goals, educators provide few opportunities for self-enhancement and thus encourage avoidance behavior toward learning. Even the student who views success in school as a means of self-enhancement will not absorb irrelevant information, though he or she may superficially learn the information for the purpose of feeding it back to the teacher for approval (Snygg & Combs, 1949).

However, the victim of this trickery does not allow himself to be put upon. He maintains his integrity by dropping the material from his field at the earliest possible moment, usually as soon as the mark has been assured. This state of affairs often results in the pupil's disregard of the subject matter

entirely, except as a vehicle for gaining approval or avoiding disapproval. (Snygg & Combs, 1949, p. 210)

It has been hypothesized that a child learns what he perceives he is able to learn (Brookover, 1966). The person's background of experience is a basis for all perceptions which make up his or her world. If an individual has experienced significant failures, a sense of failure can pervade all pursuits, just as experience of significant successes can permeate subsequent experiences. The implication is that once one's perception of himself/herself as a learner is formed it tends to resist change. The individual's need for congruency is a basis for the resistance (Jersild, 1952; Naylor, 1972; Purkey, 1970). If new concepts of self are consistent with and relevant to existing concepts, it is assumed that they are assimilated into the self structure. Those concepts which are irrelevant or inconsistent with the system are likely to be rejected (Purkey, 1970). To attain congruency, a person who characterizes himself as a poor student may easily distort the achievement of a high grade by claiming "luck" or proclaiming the teacher as a fool (Rogers, in Naylor, 1972). For the same reason, a successful student can easily reject an incidental failure because it is inconsistent with his or her self-perception. Purkey (1970) reported studies which have shown that,

students who did poorly but expected to do so were more satisfied and contented than those who did well but had not expected to do so. Those who found themselves doing well experienced considerable discomfort and tended to bring their performance into agreement with their expectations. (p. 11)

Whereas Purkey (1970) stated that a person generally resists accepting contrary information about himself and usually favors personal judgment in lieu of evidence, Naylor (1972) reported that discrepancy between self-concept and experience is an indication of psychological disturbance. Snygg and Combs (1949) related case studies of subjects who disowned behaviors in order to maintain consistency between the accepted self and experience. The primary basis for maintenance resulted from the subject's interactions with significant others, "which gave the individual character and direction to his behavior" (Snygg & Combs, 1949, p. 219).

Several authors believe that the self-concept of the learner can be positively fostered within the educational setting. Crucial to the fostering process is recognition of and belief in each student's uniqueness. Acceptance of individuality presupposes that each person arrives in the classroom equipped with experiences which define his or her phenomenal self, charged with a need to further explore his or her world as well as the worlds of others, and filled with desire to establish personal significance through learning (Combs, 1962; Purkey, 1970; Snygg & Combs, 1949).

Research tools. Wylie (1961) pointed out that most self-concept measures have been designed for a study or series of studies used for the particular investigation and forgotten afterward without much effort to assess the adequacy of the tool. The most common approach to self-concept measurement has been the use of standardized self-reports or self-descriptions (Wells & Marwell, 1976; Wylie, 1961). Generally, this form provides a set of statements to which the individual responds indicating agreement, approval or inclinations toward some or all of the statements. The statements involve verbal evaluations or descriptions and the person indicates their perceived applicability to himself.

Phenomenologically, their reports are not taken to be identical with self-perceptions and self-evaluations, but as forms of behavior in which these are fairly directly and reasonably manifested. (Wells & Marwell, 1976, p. 80).

Combs (1962) regarded self reports as not correspondent to self-concept, or "what an individual believes he is." He believed the self-report provided only information the subject was willing to reveal or could be tricked to reveal. That self-report is not equivalent to the self-concept nor identical with self-evaluations must be accepted as a problem with measurement techniques. Because "phenomenal fields are private and beyond direct observation by the experimenter," measurement of self-concept will continue being somewhat elusive (Wylie, 1961, p. 23).

Direct self-report instruments are similar in that the form of the stimulus is fairly uniform though content may vary (Wells & Marwell, 1976). Adjectives, descriptive phrases and evaluative statements are common stimulus forms. The advantage of any particular stimulus form over another is reported to be unclear and all forms seem to be used with equal frequency (Wells & Marwell, 1976). Three kinds of measurement instruments are typically used for self-reporting. A single stimulus instrument requires the subject to make a single response to one stimulus at a time. Responses to a word or phrase often range from strong positive to strong negative feelings (or completely agree to completely disagree). Jourard's Self-Cathexis questionnaires and Fitt's Tennessee Self-Concept Scale are examples of single stimulus instruments. Coopersmith, Piers Harris and the California Personality Inventory are of single stimulus design.

A semantic differential scale is a second type of self-report instrument. In contrast to a single descriptive stimulus, the measurement task may require the subject to respond to simultaneous stimuli, taken jointly as a set. "The semantic differential consists of a group of seven scales, each defined by a pair of polar terms of which words or concepts are to be related" (Klienmuntz, 1967, pp. 208-209). Though responses on the scale are not completely predetermined by the test, the test

instrument is objectively scored. Osgood, developer of the semantic differential technique, reported that a significant proportion of the meanings of concepts could be described by three independent dimensions which were labeled evaluation, activity and potency. Sets of bipolar adjectives comprised each dimension. Examples of bipolar adjectives enlisted within evaluation are good-bad, sweet-sour; activity adjectives include fast-slow, hot-cold; and potency adjectives include strong-weak, large-small (Naylor, 1972). Solley and Stagner (1956) and Helper (1955), have designed self-report measures based on Osgood's semantic differential concept.

The Q-sort, a third research instrument utilized in self-reporting, tends to reveal discrepancies between the individuals "real self" and "ideal self" (Wells & Marwell, 1976). The technique requires the respondent to sort a set of cards on which are printed statements or adjectives into piles ranging from, for example, "most characteristic" to "least characteristic." The number of piles or categories varies among studies (Kleinmuntz, 1967).

In a typical application of this technique, a large number of personality-descriptive items are sorted by the subject [sic] into nine piles which are arranged on a continuum according to the degree to which they are characteristic of the subject's [sic] self. (Wylie, 1961, p. 41)

According to Wells and Marwell (1976), the Q-sort does not allow for comparison of means or total scores between individuals or groups. "An individual's score or rank on an

item is comparable only to the same individual's scores or ranks for other items on that measure" (Wells & Marwell, 1976, p. 88). The constraining factor or the advance determination of the number of cards to be placed in each pile by the subject, renders the same mean and total for individuals (Wells & Marwell, 1976). Butler and Haigh's Self-Referent Items (1954) is an example of the Q-sort approach (Wells & Marwell, 1976). Composed of one hundred self-referent items, the sets of items are to be arranged into nine piles according to the degree to which they are "like me," or according to the degree to which they characterize the "ordinary self" (Wylie, 1961). The respondent is forced to assign a certain number of items to each of the piles.

Studies related to creativity and self-concept. Studies which focused on the relationship between creativity and self-concept or a component of self-concept and a dependent variable have been reported in current literature. Reported in this review are recent investigations which: (1) attempted to establish a relationship between creativity and self-concept, or (2) attempted to establish a relationship between creativity and self-concept or a component of self-concept as effected by art experience.

Hallman (1975) investigated the effect of the play experience on playfulness, creativity and self concept in

adults. Subjects of the study were 28 college students between the ages of 18 and 26 years. The sample was evenly distributed with males and females. Using a pretest-post-test design, Hallman administered the Playful scale of the Personality Research Form to measure playfulness; the Alternate Uses, Similarities, Patterns and Lines Test by Wallach and Kogan to measure creativity; and the Semantic Differential to measure self-concept before and after six one-hour sessions. Sessions for the experimental group involved group participation in structured children's games and free play time. The control group engaged in discussions about play, but was not involved in play activity. Results of the Hallman Study showed no significant change in playfulness or self-concept. However, the play group significantly increased in fluency and uniqueness scores on all four creativity test stimuli while the control group decreased on all creativity measures. Hallman suggested that the relaxed, nonevaluative atmosphere created by the playful setting might have influenced fluency and uniqueness factors.

Dalton (1973) conducted an investigation on the effects of two different types of environment on creativity and self-concept. Graded and nongraded elementary schools were the two situations studied. First, second and third year students were selected from one nongraded school and an equal number was randomly drawn from a graded school.

Results indicated that students of the graded school scored significantly higher in flexibility and fluency than did students in the nongraded school. Comparable scores were found between the groups on originality and elaboration and overall creativity. Dalton reported no observable differences in patterns of fluency and originality from the first through the third year for students in either school. Third grade students in the graded school showed significant differences in increases of flexibility and overall creativity over their non-graded counterparts. Scores in elaboration were significantly higher for the first year nongraded students, while no difference was found between the second year groups. The third year graded subjects' scores in elaboration appeared significantly different from the other third year students. No distinguishable differences were found in the mean scores on the self concept tests of groups from either school situation.

In a study by Loshak (1973) relationships between creativity, ego integration and body image boundaries (Barrier) were investigated. The art and writing scale of the Biographical Inventory-Creativity (BIC-CrAW), Barron's Ego Strength Scale, a college version of the Remote Associates Tests, and the Fitzgerald Experience Inquiry were administered to 100 undergraduate male subjects. The Holtzman Inkblots were scored for Human Movement ("M") as an additional creativity measure. Results

of Loshak's study supported his hypothesis that high barrier subjects would obtain higher scores than low barrier subjects on various creativity measures. The results failed to support a relationship between body image boundaries and ego strength.

Four studies were found which tested the effects of creative dramatics on subjects' creativity and/or self-concept. Ridel (1975) found that the implementation of creative dramatics within an average ninth grade language arts class significantly influenced students' originality scores on the Torrance Tests of Creative Thinking, Verbal Forms.

At the University level, Dunn (1974) investigated the effects of a creative drama course on: (1) individuals' creative-thinking potential as measured by the Torrance Tests of Creative Thinking, (2) individuals' willingness to engage in risks as measured by the Brim Judgment Extremity-Confidence measure, and (3) the formation of groups within a given situation. At the end of the experimental period, results showed no growth in creativity, a decline in willingness to take risks and an increase in socialization.

Exploring the effects of creative dramatic activities on self concept, Bellman (1974) pretested and posttested three fifth grade language arts students who experienced seven consecutive lessons in creative dramatic activities.

The results showed the experimental group to be no different from the control group on self-concept.

Pisaneschi (1977) conducted a study of elementary school children and the effects of creative dramatics experience on their creativity and self-concept. The experimental period covered four weeks and included 12 40-minute creative dramatics sessions. All subjects were pretested and posttested on the Torrance Tests of Creative Thinking, Figural Forms, (TTCT), the Piers-Harris Children's Self-Concept Scale (PHSC) and a self-drawing designed to assess body image. Subjects included 56 white rural-suburban remedial reading pupils who were randomly assigned to one of two experimental groups (E1 or E2) or to one of two control groups (C1 or C2). The results showed no significant differences from pretesting to posttesting, within or among group scores on the TTCT or PHSC.

Summary

Included in the review of the literature was modern dance in education, creativity thinking abilities, and self-concept. As early as the 1920's, dance educators wrote about the personal values modern dance holds for the individual. Enhancement of creativity and growth in personal self were two factors regularly mentioned. Though investigations into creativity and self-concept by respective authorities were not begun in depth until the late 1940's, these experts also claimed that each

construct held relevance for the individual. Creativity and self-concept appear to be contributors to a more comprehensive theory of self-actualization. According to the beliefs of dance educators, modern dance is a viable tool for enriching both of these aspects which are strategic to the fully functioning individual.

CHAPTER III

PROCEDURES

The procedures used in this study were designed to determine if varying amounts of creative modern dance activities affected creative-thinking abilities and self-concepts of subjects enrolled in a one academic quarter modern dance class and to determine whether and to what degree a relationship exists between general creative-thinking abilities and self-concept. The instrument used to measure creativity was the Torrance Test of Creative Thinking (TTCT), Figural Test A (pretest) and Figural Test B (posttest). The Tennessee Self-Concept Scale (TSCS), Counseling Form, was utilized as the pretest and posttest measure of the self-concept factor. The number of varying amounts of creative modern dance activities was determined by the investigator in advance of the study.

This chapter on procedures includes a description of the research design, the data collection process and the data analyses. Included in the description of the research design is identification of the key variables, the selection of instruments, description of the treatment, and experimental controls. The data collection section contains a discussion of the selection of subjects,

pretest administrations, treatment, posttest administrations and preparation of test results for analysis. The final section in this chapter includes a description of the analyses.

Research Design

The research design utilized in this study was quasi-experimental in nature. According to L. R. Gay (1976), this type of design results from circumstances which prohibit random assignment of subjects to groups. Because subjects involved in this investigation were enrolled in classes previously identified for treatment in the study, random group assignment and selection was restricted.

Variables. The focus of this investigation was on the effect the one independent variable had on the two dependent variables. The two dependent variables of this study were:

1. Creative-thinking abilities. The Torrance Tests of Creative Thinking (TTCT), Figural Test A (pretest) and Figural Test B (posttest) were used as measures of this factor.

2. Self-concept. The Tennessee Self-Concept Scale (TSCS), Counseling Form, was utilized as the pretest/posttest instrument measuring self-concept.

The one independent variable in this investigation was the varying amount of creative modern dance activities.

The manipulation of this variable was executed by administering different amounts of these activities to the four experimental groups.

Selection of instruments. To test dance educators' belief that modern dance positively affects an individual's general creative-thinking abilities and self-concept, two instruments were selected as measures of the two dependent variables. The rationale for the selection of each test and a description of the tests follow.

TTCT rationale. Torrance Test of Creative Thinking (TTCT), Figural Forms A and B were selected as the instruments for measuring creative-thinking abilities. There were two primary influences on the investigator's choice of these tests. The first factor originated from the assumption that modern dance affects a subject's creative abilities. References to one's creative growth through dance frequently address general creative development rather than the development of specific creative behaviors as they relate to a particular situation (H'Doubler, 1966). To test this notion of general creative development, the identification of an instrument which measured the generalities of creativity was necessary. Though there are many tools for measuring the creative personality and the creative potential, few tests of creative-thinking abilities exist. Besides the TTCT, Guilford's batteries and Mednick's Remote Associates Test (RAT) (1967) are two

additional measures of creative thinking. The Guilford batteries, developed by J. P. Guilford and associates, were pioneer attempts to measure creativity. Each test within the battery was designed to measure a single factor which represented creative thinking. The TTCT development relied on the work of Guilford and his associates. A major difference between the Guilford tests and the TTCT tests is the fact that the Torrance's tests were designed to be scored for several factors (Goldman, in Mooney et al., 1967). The RAT, which has been purported as a measure of creative thinking, has received criticism in terms of the nature of the test. The test requires a form of convergent thinking as opposed to divergent thought production, commonly believed to be an aspect of creative thinking (I. A. Taylor in I. A. Taylor & Getzel, 1975). The usefulness of the TTCT as a measure of creative thinking has been noted by a number of creativity experts (Barron, 1969; Goldman, in Mooney et al., 1967; C. Taylor, 1964; I. A. Taylor & Getzels, 1975).

Secondly, favorable reports of reliability and validity influenced the investigator's selection of the TTCT as the measurement tool. Test-retest reliability studies of the total tests (Verbal and Figural batteries), ranged from .37 to .97 with the majority of results being between .65 and .85 (Torrance, 1974, p. 20). Studies on reliability of scoring reported high levels of interscorer

and intrascorer reliability. Reliability studies on trained scorers were reported to be in excess of .90. Studies on inexperienced scorers who utilized the instructions included in the scoring guide, reported mean reliability coefficients for the Figural Test ranging from .88 for originality and .96 for fluency (Torrance, 1974, p. 17).

Construct validity of the TTCT has been obtained primarily through the use of correlational studies with personality characteristics. Significant correlations have been reported associating high levels of creativity with such characteristics as orientations toward intuitiveness, resistance to social pressure, social extroversiveness and passive compliance. "Significance in concurrent validity has been found in studies involving peer nomination, teacher nomination, and various measures of educational achievement" (Brown, 1972, p. 32). Most measures of predictive validity established in studies ranging from five to twelve years in length have yielded significant results at the .01 level or better.

Three secondary factors guided the investigator to the selection of the TTCT. These were 1) that the test batteries were available in the figural form, thus presenting a compatibility with the visual nature of dance; 2) Dr. E. Paul Torrance, the creator of the tests, was immediately available for consultation, being a faculty

member at the University of Georgia; and 3) the tests could be administered in one class period.

TTCT description. The Torrance Tests of Creative Thinking (TTCT), Tests A and B, are designed to elicit responses to the prescribed tasks from the subject. Each figural form consists of three tasks, "each task designed to tap a different aspect of creative functioning" (Torrance, in Davis, 1971, p. 282). The Picture Construction Activity, the Picture Completion Activity, and the Repeated Figures Activity comprise the Figural batteries. A ten-minute completion time is imposed on each activity and a different aspect of creative functioning is measured by each task.

The Picture Construction Activity requires subjects to draw an original picture in which a given shape is incorporated and to accord it a title. In Figural Test A, the given shape resembles a pear and in Figural Test B, the shape is similar to that of a jelly bean. The completed task is scored for originality and elaboration (Torrance, 1974).

The Picture Completion Activity is the second task on both Figural Tests. Given a series of ten abstract designs, the subject is to make each design into an original picture and to add a title. The figures vary between Test A and Test B. Scores for fluency, flexibility

and originality are collected from this activity (Torrance, 1974).

The third test task is the Repeated Figures Activity. "The common element tested is the ability to make multiple associations to a single stimulus" (Torrance, 1974, p. 14). In Figural Test A, 30 sets of parallel lines are given. The subject is asked to form the sets of lines into original pictures. In Figural Test B, the subject is presented with 40 circles that are to be made into complete pictures. The Repeated Figures Activity produces scores for fluency, flexibility, originality and elaboration (Torrance, 1974).

TSCS rationale. The investigator elected to use the Tennessee Self-Concept Scale (TSCS), Counseling Form to measure subjects' self-concepts for three reasons. A review of other tests, e.g., the Minnesota Multiphasic Personality Inventory (MMPI) and the California Psychological Inventory (CPI) were designed to identify psychopathological tendencies in patients. The TSCS may be used for clinical purposes, but has also been designed to evaluate the general self-concept of "normal" individuals. The subjects tested in this study were accepted as a "normal" sample from the population, free of psychopathological tendencies.

The various content areas of the scale have been well conceived and yield a vast amount of information (Bentley, 1972, p. 366). The TSCS contains a three-by-five scheme which allows the investigator to examine various aspects

of self-descriptions. Physical self, personal self and social self were components included in the three-by-five scheme. Based on data gathered on the various items included in the TSCS, reported test-retest reliability ranged from .60 to .92.

The fact that the TSCS required approximately 13 minutes for completion was a practical basis for its selection as the self-concept measurement tool. Minimal testing time by a creditable instrument was a necessity within the time limit of data collection.

TSCS description. The Tennessee Self-Concept Scale (TSCS), Counseling Form, consists of 100 self-descriptive items. Ninety items assess the self concept and ten items assess self-criticism. The self-criticism items are derived from the Minnesota Multiphasic Personality Inventory (MMPI) Lie Scale Items. The TSCS measures eight aspects of self-concept. Three of these aspects are identity, self-satisfaction and behavior. These aspects represent an internal frame of reference within which the individual perceives himself/herself (Fitts, 1965). Relative to the internal frame of reference is the external frame of reference, composed of five aspects of self-concept. These external aspects are: physical self, moral-ethical self, personal self, family self, and social self (Fitts, 1965).

The TSCS is designed as a self-administering test with no predetermined completion time. Fitts reported a mean completion time of 13 minutes (Fitts, 1965). The subject is instructed to react to self-descriptive statements by marking the most appropriate response. The response selections for each item are: completely false, mostly false, partly false, mostly true and completely true.

Description of the experimental treatment. The experimental treatment designed for this study was the varying amount of creative modern dance activities. Exploration, improvisation, composition and performance comprised the creative activities. Each experimental subgroup received a designated series of creative modern dance activities which included experiences in each of the creative activities. Four class meetings were required for administering a complete series. In each of the four series, the first class meeting focused on explorational activities and was followed by improvisation during the second class meeting. The third meeting was devoted to a composition related to the preceding explorational and improvisational content. The final day in the series involved performance of the composition and discussion by the instructor and the students. Forty-five minutes per class were devoted to each activity. Appendix A includes all lessons of the four series.

Experimental controls. To insure precision in accomplishing the purposes of this study, the investigator identified potential threats to validity and imposed controls on this experiment. Inconsistency of teacher behavior among experimental subgroups in a class, inconsistency of teacher behavior between the two experimental classes, subject resistance to technique instruction directed by an undergraduate teaching assistant and subject absenteeism were regarded as possible threats to the validity of this study.

Possible inconsistency of teacher behavior among subgroups in a class was identified as a potential threat. In order to minimize the possibility of inconsistency in the treatment of material and/or the teacher's attitude toward the material, all subgroups within a class simultaneously experienced the same creative modern dance material until a subgroup was designated to attend the technique portion of the experiment.

Inconsistency in teacher behavior between the two classes was recognized as another threat to the validity of this investigation. Considering that familiarity with the creative material might have an impact on the teacher's effectiveness in a given class, the amount of creative activities in exploration, improvisation, composition and performance remained identical between the parallel

subgroups, but the content was varied as deemed appropriate by the investigator.

Technique instruction by an undergraduate student was recognized as a factor which might arouse student resistance, thus decreasing the validity of the investigation. To minimize potential subject resistance, the selection of a mature, experienced individual was imperative. The investigator consulted with three dance faculty members on possible teaching assistant candidates. Unanimous agreement was reached on the teaching assistant selected to conduct the technique classes. The student who served in this role was a 26-year-old, female, undergraduate dance major, experienced in teaching modern dance at the University of Georgia. The teaching assistant was introduced as the instructor of the class.

Subject absenteeism was regarded as a potential threat to the validity of this study. In an attempt to control for this threat, subjects assigned to the subgroups receiving four, eight and twelve exposures to creative modern dance activities were requested to make up the absence in a creativity session with another subgroup in the class in which they were enrolled and/or in the second experimental class. Subjects in the subgroup receiving 16 exposures to creative activities were asked to either make up absences in the second experimental class and/or in a special make-up class scheduled on the 19th day of class.

Data Collection

The data collection portion of this study includes discussions on the selection of subjects for the study, pretest administrations, the treatment, posttest administrations, and preparation of the test results for analysis.

Selection of the subjects. The subjects of this study were nondance-major undergraduate male and female students enrolled in the University of Georgia during the Fall Quarter, 1977. A total of 84 subjects consented to participate in this investigation.

Experimental group. The experimental group was composed of 41 undergraduate male (3) and female (38) subjects. The subjects were nondance-major students enrolled in either one of the two beginning level modern dance courses (PED 116A) offered during Fall, 1977. To identify subjects for the experimental group, the investigator attended the first meeting of each of the two modern dance classes and explained that the class had been selected to take part in a study on content appropriateness and teacher effectiveness. The necessity of individual testing was included in the explanation. Enrollees were given the opportunity to volunteer as subjects for the study and were issued consent forms to be signed and witnessed and returned to the investigator (Appendix B). Students who failed to appear at the first class meeting were requested to speak privately with the investigator, at which time

the study was explained and the consent form was issued to the student if he/she was willing to be a subject. A total of forty-five subjects volunteered to receive the experimental treatment. Subjects were assured that the test results were confidential and would be shared only with the subject upon request. It was explained to them that the test results would be destroyed upon completion of the study.

Originally a total of forty-five students consented to participate in the experiment. Because of excessive absenteeism and/or failure to appear for posttesting, four subjects who were in the experimental group initially were excluded from the experimental group. Thus, data were collected on forty-one subjects.

Control group. The control group was composed of 39 undergraduate male and female students selected from five basic physical education classes. The criteria for identifying the classes from which control subjects were to be selected were, 1) that they be nondance courses, and 2) that they meet at the same time period as one of the two beginning level modern dance classes, i.e., second or third period. Based on the criteria, one class each of bowling, fencing, recreational sports, tennis and volleyball was selected. Each was a beginning level course.

To obtain control group subjects, the investigator sent a letter to the instructor of each class stating a

desire to select members from his classes to be a part of this study (Appendix C). Upon receiving the instructor's approval, the investigator explained to each of them the nature of the investigation and the role of the control group subjects. Each instructor was requested to relate to her class the information provided by the investigator and to randomly select a sample from the willing participants. The planned selection process was to select from volunteers, every third name as it appeared on the teachers' roll book. This was accomplished in the recreational sports and volleyball classes but there were few volunteers in the other three classes. Therefore, all willing participants enrolled in the remaining three classes were accepted in order to obtain the necessary number for the control group.

The control group subjects were assured that test results were to be kept confidential and shared only with the individual upon request and that all tests would be destroyed upon completion of the investigation.

Pretest administration of the TSCS, Counseling Form.

The TSCS pretest was administered to the experimental treatment groups during the first class meeting. This was done after the investigator explained the nature of the study and the subjects had consented to participate. The TSCS was selected to be the first test administered because of the projected limitation in class time. The investigator

administered the TSCS to both experimental classes in accordance with the instructions on the inside cover of the test booklet. Make-up test administrations were achieved before the first day of activity.

The TSCS was administered to the selected subjects in the five control classes during the fifth or sixth scheduled class meeting. The test was given by either the investigator or an informed assistant, following instructions on the inside cover of the test booklet.

Pretest administration of the TTCT, Figural Test A.

The TTCT, Figural Test A, was administered to the experimental group during the second class meeting. The instructor of the two classes administered the test. Prior to the scheduled testing sessions, the investigator reviewed procedures of test administration with the instructor. Instructions to the subjects followed those in the test booklet of the TTCT, Figural Test A.

The TTCT, Figural Test A, was given to the selected subjects in the five control classes during the fifth or sixth scheduled class meeting. The test was administered by either the investigator or an informed assistant, following instructions in the test booklet of the TTCT, Figural Test A.

Treatment. Within each of the two beginning level modern dance classes, four subgroups were designated. Female subjects in each class were randomly assigned to

each of the four subgroups. To prevent a predominance of males in a subgroup within a class, those subjects were spread randomly among the four subgroups (Table 1).

For the purpose of discovering if various amounts of creative modern dance activities affected creative-thinking abilities and self-concept, the four subgroups in the two classes received different amounts of the independent variable. Subjects in subgroup one received four creative activities, subjects in subgroup two received eight creative activities, subjects in subgroup three were applied twelve creative activities, and subjects in subgroup four experienced 16 creative activities. Each administration of a creative activity lasted approximately 45 minutes.

A total of 20 class periods was held during the Fall Quarter, 1977. The first two classes were devoted to orientation and pretest data collection. The 19th class meeting was utilized as a make-up session for those subjects lacking one creative experience. The final day was devoted to posttesting.

The administration of the independent variable was accomplished via the following procedure. Two individuals other than the investigator were responsible for the instructional phases of this experiment. A University of Georgia dance faculty member administered all creative modern dance activities to all subgroups in each of the

Table 1

Breakdown of Experimental Group Classes Into Subgroups

Class (N)		Subgroup 1 (N)	Subgroup 2 (N)	Subgroup 3 (N)	Subgroup 4 (N)
1	21	5	5	6	5
2	20	6	5	4	5
Total	41	11	10	10	10

two classes. A qualified undergraduate dance major student conducted all technique sessions for subjects who had received the assigned amount of creative activities and for students who elected not to participate in the study.

During the first two weeks (four class sessions) of treatment application, all subjects in the four subgroups received the same creative modern dance activities series. Upon completion of the first series, subgroup one attended the technique sessions for the remainder of the quarter. The second creative modern dance activities series was experienced by subgroups two, three and four. Following the termination of that series, subgroup two joined subgroup one and participated in technique sessions for the remainder of the quarter. Subgroups three and four participated in the third series of creative modern dance activities. Upon completion of the four activities, subgroup three joined the technique portion of instruction. Subgroup four remained for the final series of creative modern dance activities. Receiving the maximum number (16) of creative modern dance activities designed for the purposes of this study, subgroup four received no instruction in technique. (Table 2)

Due to absences, several subjects lacked one creative modern dance experience to complete his/her designated number. To avail subjects of the opportunity to make up the

Table 2

Subgroup Sessions in Creative Modern Dance Activities and Technique

Subgroup	Sessions in CMDA	Sessions in Technique	Sessions in Testing
1	4	12	3
2	8	8	3
3	12	4	3
4	16	0	3

absence, the 19th class meeting was scheduled as a make-up period. During that time, activities in structured improvisation were offered. A total of 12 students was required to attend the make up class and participate in the activity he/she previously missed.

Posttest administration of the TTCT, Figural Test B.

The TTCT, Figural Test B was administered to the experimental group during the first 30 minutes of the 20th class meeting. The instructor of the two classes administered the test. Instruction to the subjects followed those in the test booklet of the TTCT, Figural Test B.

The TTCT Figural Test B was administered to the control subjects during the first 30 minutes of the 19th class meeting. The test was administered by either the investigator or an informed assistant. Instructions stated in the test booklet were followed.

Posttest administration of the TSCS, Counseling Form.

The self-concept posttest was administered to the experimental treatment groups during the second portion of the 20th class meeting. The instructor of the two beginning level modern dance classes administered the test. Instructions for completing the test were read to the subjects before they began taking the test.

Posttesting of the control subjects was achieved during the second portion of the 19th class period. The investigator and an assistant administered the TSCS to

subjects in the five different physical education classes. Instructions for taking the test were read to the subjects before they began.

Preparation of test results for analysis. The investigator and an assistant who was a certified TTCT scorer with a scorer reliability above .95, checked all pretests and posttests. Instructions included in the directions manual and scoring guide for each test were followed. To prepare for scoring the collected data, the investigator and assistant self-administered and scored the TTCT, Figural Tests and the TSCS.

The TTCT renders scores for fluency, flexibility, originality and elaboration. The scoring guide includes definitive instructions for recording scores on the first three components. Both the investigator and the assistant checked the tests for fluency, flexibility and originality. Because no strict guidelines exist for scoring elaboration, consistent subjective judgment is required. Thus, the trained assistant scored all tests for elaboration. The assistant also double checked all the tests for scoring consistency and accuracy.

The TSCS, Counseling Form is designed for self-administration and scoring. According to the author of the scale, it is quick and easy to score and is appropriate for self interpretation (Fitts, 1965). Following the instructions in the TSCS manual, the investigator and

assistant scored all tests. Scoring involved an objective procedure which required adding item responses and entering the sum of each cell in the appropriate box.

After all pretest and posttest instruments were scored, the data were sorted into subgroups and coded. An initial data summary sheet was compiled listing each subject's pretest and posttest scores on the four TTCT components and on six selected TSCS factors. Brief biographical information on each subject was recorded on a separate summary sheet. This information included the subject's age, sex, academic classification and major.

Upon grouping the completed data into the five subgroups, it was apparent that the control group was too large for purposes of comparison with the four experimental groups. (Table 3)

Table 3
Initial Subgroup Size

Subgroup	N
1	11
2	10
3	10
4	10
5 (control)	39

A decrease in size of the control group was deemed necessary. To accomplish the reduction, the investigator randomly selected a total of eleven subjects from the five control classes. The final control group was composed of one subject from the bowling class, two subjects from the recreational sports class and two subjects from the fencing class. Three subjects were selected from the volleyball class and from the tennis class. Nine females and two males were included in the control group.

A second summary sheet was compiled for the purposes of treating the reduced size of the control group and transferring test results to data cards. Each subject's TTCT score on fluency, flexibility, originality and elaboration was recorded. To establish a composite score for the TTCT pretest and posttest, the raw scores on the four components were converted to T-scores and summed. Raw scores on six selected TSCS factors, including the composite score, were recorded on this summary sheet. Complete test information on each subject was keypunched on individual data cards.

Data Analysis

The investigator computed the sums of the TTCT scores and the TSCS scores for each subject. The means and standard deviations were found for the experimental and control group data.

To determine the effects of varying amounts of creative modern dance activities on subjects' creative-thinking abilities and self-concepts as measured by the TTCT, Figural Test A and Figural Test B and the TSCS, Counseling Form, a one-way analysis of variance was used. This statistical technique was utilized to determine if initial differences existed among mean performances of all five groups on the two pretest measures and to determine if final differences existed among the group mean performances on the two posttest measures.

In order to determine if groups' mean performance on the TTCT and TSCS changed from pretest to posttest within each group, a two-way analysis of variance was utilized.

The null hypothesis was rejected if the F value was significant. The .05 level of significance was used and was determined before the data were collected.

A correlation technique, Pearson's Product Moment, was applied to the measures of creative-thinking abilities and self-concept to determine whether and to what degree a relationship existed.

CHAPTER IV

ANALYSIS OF RESULTS

Investigated in this study were the effects varying amounts of creative modern dance activities had on individuals' creative-thinking abilities and self-concepts. An analysis was included to determine whether and to what degree a relationship exists between creative-thinking abilities and self-concept.

The hypotheses tested in this study were:

1. The amount of creative modern dance activities a subject experiences will significantly effect his/her general creative-thinking abilities.
2. The amount of creative modern dance activities a subject experiences will significantly effect his/her self-concept.
3. A significant relationship exists between general creative-thinking abilities and self-concept.

Forty-one subjects were in the experimental group and 39 were in the control group. Four subgroups received varying amounts of the independent variable, creative modern dance activities. For the purpose of comparing data, the original control group was reduced from 39 to 11. The experimental period for the study was 10-weeks. During the 10 week period, the subjects in the four

experimental subgroups received varying amounts of creative modern dance activities. Control group subjects received no instruction in modern dance.

The results of the investigation presented in this chapter were based on analyses of the subjects' scores on the Torrance Tests of Creative Thinking, Figural Tests A and B and on the Tennessee Self-Concept Scale, Counseling Form. Analysis of the TTCT data is presented first in this chapter, followed by analysis of the TSCS data.

The organization for reporting the analyses is as follows:

1. Mean and standard deviation statistics for pretest and posttest scores.
2. An F test (one-way analysis of variance) for significance among groups to determine if groups were equal in mean performance initially, utilizing pretest data.
3. An F test (one-way analysis of variance) for significance to determine if groups were equal in mean performance finally, utilizing posttest data.
4. An F test on each group (two-way analysis of variance) to determine if initial and final measures were equal, utilizing initial and final measures within a group.
5. Pearson's Product Moment correlation technique was utilized to determine the relationship between creative-thinking ability and self-concept as measured by

the TTCT and the TSCS. A discussion of the results finalizes the chapter.

Analysis of the TTCT Scores for the Experimental and Control Groups

To test hypothesis one, the amount of creative modern dance activities a subject experiences will significantly effect his/her general creative-thinking abilities, the TTCT, Figural Tests A and B were utilized.

Means and standard deviations for initial and final scores of the TTCT. The means and standard deviations on the TTCT, Figural Tests A and B were calculated for both the experimental and control groups. These statistics are presented in Table 4.

Experimental subgroup one (N = 11, CMDA = 4) had an initial mean of 203.80 and an initial standard deviation of 27.99. After 10 weeks, the mean was 202.62 and the standard deviation was 31.63.

Experimental subgroup two (N = 10, CMDA = 8) had an initial mean of 185.06 and an initial standard deviation of 29.49. Upon conclusion of the study, the mean was 178.29 and the standard deviation was 25.78.

Experimental subgroup three (N = 10, CMDA = 12) had an initial mean of 191.93 and an initial standard deviation of 17.13. After 10 weeks the mean was 203.39 and the standard deviation was 14.68.

Table 4
Means and Standard Deviations of the Initial and Final Scores on the
TTCT for the Experimental and Control Groups

Groups	N	CMDA	Mean		Standard Deviation	
			Initial	Final	Initial	Final
Experimental subgroups:						
1	11	4	203.80	202.62	27.99	31.63
2	10	8	185.06	178.29	29.49	25.78
3	10	12	191.93	203.39	17.13	14.68
4	10	16	219.21	210.96	41.27	34.41
Control Group	11	0	199.65	204.07	32.49	36.46

Experimental subgroup four ($N = 10$, CMDA = 16) had an initial mean of 219.21 and an initial standard deviation of 41.27. At the conclusion of the investigation the mean was 210.96 and the standard deviation was 34.41.

The control group ($N = 11$, CMDA = 0) had an initial mean of 199.65 and an initial standard deviation of 32.49. Upon conclusion of the study, the mean was 204.07 and the standard deviation was 36.46.

F test for significance of initial group mean performance on the TTCT. It was determined that there was no initial difference among the five groups because the F value (1.79) obtained by one-way analysis of variance was not significant at the .05 level. An F value of 2.57 with four and 47 degrees of freedom was required for a significant difference (see Table 5). A nonsignificant F value was desired at this point since initial measurement occurred before treatment had been administered.

F test for significance of final group mean performance on the TTCT. One-way analysis of variance was utilized to determine if the five groups differed significantly in posttest TTCT, Figural Test B scores. The results of this analysis are shown in Table 6. The F value of 1.76 was not significant at the .05 level. An F value of 2.57 with four and 47 degrees of freedom was required for a significant difference. A nonsignificance was found between the experimental and control groups in their posttest scores on

Table 5

One-Way Analysis of Variance of the Pretest (TTCT, Figural Test A)
Scores for the Experimental and Control Groups

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Value
Between Groups	6733.68	4	1683.42	1.79 ¹
Within Groups	44188.56	47	940.18	
Total	50922.24	51		

¹ F to be significant at the .05 level = 2.57 with 4 and 47 degrees of freedom.

Table 6

One-Way Analysis of Variance of the Posttest (TTCT, Figural Test B)
 Scores for the Experimental and Control Groups

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Value
Between Groups	6287.24	4	1571.81	1.76 ¹
Within Groups	41876.86	47	891.00	
Total	48164.10	51		

¹ F to be significant at the .05 level = 2.57 with 4 and 47 degrees of freedom.

Figural Test B of the TTCT. Therefore, that the amount of creative modern dance activities a subject experiences within a 10-week period has no significant effect on his/her general creative-thinking abilities was found to be a tenable assumption.

F test on individual group initial and final mean performance on TTCT. To determine if there was significant change between pretest and posttest measures of creative-thinking ability as measured by the TTCT for each of the experimental groups and the control group, a two-way analysis of variance was utilized. The results of these analyses are presented in Table 7 through Table 11.

Experimental sub-group one (TTCT). Experimental sub-group one was composed of 11 subjects who received four creative modern dance activities during the first two weeks of the 10-week period. The initial group mean was 203.80 and the final mean was 202.62. It was determined that there was no significant difference between subgroup one's initial and final TTCT scores because the F value (.03) obtained by two-way analysis of variance was not significant at the .05 level. An F value of 4.96 with one and 10 degrees of freedom was required for a significant difference. The results of this analysis are shown in Table 7.

Experimental subgroup two (TTCT). Experimental subgroup two was composed of 10 subjects who experienced eight

Table 7
Two-Way Analysis of Variance of the TTCT, Figural Tests A and B
Scores for Experimental Subgroup One

Source of Variation	Degrees of Freedom	Sums of Squares	Means Squared	F Value
Tests	1	7.68	7.68	.03 ¹
Subjects	10	15273.31	1527.33	
Residual	10	2569.25	256.94	
Total	21	17850.24		

¹ F to be significant at the .05 level = 4.96 with one and 10 degrees of freedom.

creative modern dance activities during the first four weeks of the 10-week period of the study. The initial group mean was 185.06 and the final mean was 178.29. No significant difference occurred between subgroup two's pretest and posttest measures of the TTCT. The F value (.82) obtained by two-way analysis of variance was not significant at the .05 level. An F value of 5.12 with one and nine degrees of freedom was required for a significant difference. The results of this analysis are depicted in Table 8.

Experimental subgroup three (TTCT). Experimental subgroup three (N = 10) was subjected to 12 creative modern dance activities during the 10-week period of the study. The initial group mean was 191.93 and the final mean was 203.39. It was determined that there was no significant difference between initial and final mean performance on the TTCT because the F value (4.64) obtained utilizing two-way analysis of variance was not significant at the .05 level. An F value of 5.12 with one and nine degrees of freedom was required for a significant difference. The results of this analysis are shown in Table 9.

Experimental subgroup four (TTCT). Experimental subgroup four was composed of 10 subjects who experienced 16 creative modern dance activities during the 10-week period of the study. The initial group mean was

Table 8
Two-Way Analysis of Variance of the TTCT, Figural Tests A and B
Scores for Experimental Subgroup Two

Source of Variation	Degrees of Freedom	Sums of Squares	Means Squared	F Value
Tests	1	229.16	229.16	.82 ¹
Subjects	9	11309.21	1256.58	
Residual	9	2500.00	277.78	
Total	19	14038.38		

¹ F to be significant at the .05 level = 5.12 with 1 and 9 degrees of freedom.

Table 9
Two-Way Analysis of Variance of the TTCT, Figural Tests A and B
Scores for the Experimental Subgroup Three

Source of Variation	Degrees of Freedom	Sums of Squares	Means Squared	F Value
Tests	1	656.66	656.66	4.64 ¹
Subjects	9	3303.64	367.07	
Residual	9	1274.85	141.65	
Total	19	5235.15		

¹ F to be significant at the .05 level = 5.12 with 1 and 9 degrees of freedom.

219.21 and the final mean was 210.96. It was determined that there was no significant difference between subgroup four's mean performance on initial and final TTCT measures because the F value (.56) obtained by two-way analysis of variance was not significant at the .05 level. An F value of 5.12 with one and nine degrees of freedom was required for a significant difference. The results of this analysis are shown in Table 10.

Control group (TTCT). The control group (N = 11) was composed of subjects who experienced no modern dance instruction during the 10-week period of the study. The initial group mean was 199.65 and the final mean was 204.07. It was determined that there was no significant difference between the control group's mean performance on initial and final measures of the TTCT due to the nonsignificant F value (.26) obtained by two-way analysis of variance. An F value of 4.96 with one and 10 degrees of freedom was required for a significant difference. The results of this analysis are shown in Table 11.

Analysis of the TSCS Scores for the Experimental and Control Groups

To test hypothesis two, the amount of creative modern dance activities a subject experiences will significantly effect his/her self-concept, the Tennessee Self-Concept Scale, Counseling Form was utilized.

Table 10
Two-Way Analysis of Variance of the TTCT, Figural Tests A and B
Scores for Experimental Subgroup Four

Source of Variation	Degrees of Freedom	Sums of Squares	Means Squared	F Value
Tests	1	340.31	340.31	.56 ¹
Subjects	9	20486.09	2276.23	
Residual	9	5503.50	611.50	
Total	19	26329.91		

¹ F to be significant at the .05 level = 5.12 with 1 and 9 degrees of freedom.

Table 11
Two-Way Analysis of Variance of the TTCT, Figural Tests A and B
Scores for the Control Group

Source of Variation	Degrees of Freedom	Sums of Squares	Means Squared	F Value
Tests	1	107.36	107.36	.26 ¹
Subjects	10	19774.04	1977.40	
Residual	10	4071.53	407.15	
Total	21	23952.93		

¹ F to be significant at the .05 level = 4.96 with 1 and 10 degrees of freedom.

Means and standard deviations for initial and final scores of the TSCS. Initial and final means and standard deviations were calculated for both the experimental and control groups. These statistics are presented in Table 12.

Experimental subgroup one ($N = 11$) had an initial mean of 357.91 and an initial standard deviation of 27.65. After 10 weeks, the mean was 350.91 and the standard deviation was 30.31.

Experimental subgroup two ($N = 10$) had an initial mean of 341.70 and an initial standard deviation of 32.30. Upon conclusion of the study, the mean was 340.90 and the standard deviation was 29.99.

Experimental subgroup three ($N = 10$) had an initial mean of 338.40 and an initial standard deviation of 27.40. After 10 weeks, the mean was 347.00 and the standard deviation was 30.65.

Experimental subgroup four ($N = 10$) had an initial mean of 352.20 and an initial standard deviation of 34.98. Upon conclusion of the study, the mean was 351.80 and the standard deviation was 29.72.

The control group ($N = 11$) had an initial mean of 338.82 and an initial standard deviation of 22.93. At the conclusion of the investigation, the mean was 338.00 and the standard deviation was 29.27.

Table 12
Means and Standard Deviations of the Initial and Final Scores
on the TSCS for the Experimental and Control Groups

Groups	N	CMDA	Mean		Standard Deviation		
			Initial	Final	Initial	Final	
Experimental subgroups:	1	11	4	357.91	350.91	27.65	30.31
	2	10	8	341.70	340.90	32.30	29.99
	3	10	12	338.40	347.00	27.40	30.65
	4	10	16	352.20	351.80	34.98	29.72
Control group	11	0		338.82	338.00	22.93	29.27

F test for significance of initial group mean performance on the TSCS. It was determined that there was no initial difference among the five groups on the TSCS because the F value (.96) obtained by one-way analysis of variance was not significant at the .05 level. An F value of 2.57 with four and 47 degrees of freedom was required for a significant difference. The results of this analysis are shown in Table 13. A nonsignificant F value was desired initially among groups, since no treatment (creative modern dance activities) had yet been administered.

F test for significance of final group mean performance on the TSCS. One-way analysis of variance was utilized to determine if the five groups differed significantly in the posttest TSCS scores. The results of this analysis are shown in Table 14. The F value of .44 was not significant at the .05 level. An F value of 2.57 with four and 47 degrees of freedom was required for a significant difference.

A nonsignificant difference was found between the experimental groups and control group in their posttest scores on the TSCS. Therefore, it was considered probable that the amount of creative modern dance activities a subject experiences over a 10-week period has no significant effect on his/her self-concept.

F test on individual groups initial and final mean performance on TSCS. To determine whether there was a

Table 13
One-Way Analysis of Variance of the Pretest TSCS Scores
for the Experimental and Control Groups

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Value
Between Groups	3273.87	4	818.47	.96 ¹
Within Groups	40062.65	47	852.40	
Total	43336.52	51		

¹ F to be significant at the .05 level = 2.57 with 4 and 47 degrees of freedom.

Table 14
One-Way Analysis of Variance of the Posttest TSCS Scores
for the Experimental and Control Groups

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Value
Between Groups	1570.03	4	392.51	.44 ¹
Within Groups	42263.41	47	899.22	
Total	43833.44	51		

¹ F to be significant at the .05 level = 2.57 with 4 and 47 degrees of freedom.

significant change between pretest and posttest measures of self-concept, as measured by the TSCS, for each of the experimental groups and the control group, a two-way analysis of variance was utilized. The results of these analyses are depicted in Table 15 through Table 19.

Experimental subgroup one (TSCS). Experimental subgroup one was composed of 11 subjects who received four creative modern dance activities during the first two weeks of the 10 week study. The initial group mean was 357.91 and the final mean was 350.91. It was determined that there was no significant difference between the group's mean performance on initial and final TSCS measures because the F value (1.20) obtained by two-way analysis of variance was not significant at the .05 level. An F value of 4.96 with one and 10 degrees of freedom was required for significant difference. The results of this analysis are shown in Table 15.

Experimental subgroup two (TSCS). Experimental subgroup two was composed of 10 subjects who experienced eight creative modern dance activities during the first four weeks of the 10-week period of this study. The initial sub-group mean was 341.70 and the final mean was 340.90. No significant difference occurred between subgroup two's pretest and posttest measures on the TSCS. The F value (.04) obtained by two-way analysis of variance was not significant at the .05 level. An F value of 5.12 with one

Table 15
Two-Way Analysis of Variance of the TSCS Scores
for Experimental Subgroup One

Source of Variation	Degrees of Freedom	Sums of Squares	Means Squared	F Value
Subjects	10	14583.82	1458.38	1.20 ¹
Tests	1	269.50	269.50	
Residual	10	2252.00	225.20	
Total	21	17105.32		

¹ F to be significant at the .05 level = 4.96 with 1 and 10 degrees of freedom.

and nine degrees of freedom was required for a significant difference. The results of this analysis are in Table 16.

Experimental subgroup three (TSCS). Experimental subgroup three (N = 10) was subjected to 12 creative modern dance activities during the 10-week period of the study. The initial subgroup mean was 338.40 and the final mean was 347.00. It was determined that there was no significant difference between initial and final mean performance on the TSCS because the F value (1.57) obtained utilizing two-way analysis of variance was not significant at the .05 level. An F value of 5.12 with one and nine degrees of freedom was required for a significant difference. The results of this analysis are shown in Table 17.

Experimental subgroup four (TSCS). Experimental sub-group four was composed of 10 subjects who experienced all 16 creative modern dance activities during the 10-week period of the study. The initial subgroup mean was 352.20 and the final mean was 351.80. It was determined that there was no significant difference between subgroup four's mean performance on initial and final TSCS measures because the F value (.004) obtained by two-way analysis of variance was not significant at the .05 level. An F value of 5.12 with one and nine degrees of freedom was required for a significant difference. The results of this analysis are shown in Table 18.

Table 16
Two-Way Analysis of Variance of the TSCS Scores
for Experimental Subgroup Two

Source of Variation	Degrees of Freedom	Sums of Squares	Means Squared	F Value
Subjects	9	16720.20	1857.80	.04 ¹
Tests	1	3.20	3.20	
Residual	9	768.80	85.52	
Total	19	17492.20		

¹ F to be significant at the .05 level = 5.12 with one and nine degrees of freedom.

Table 17
Two-Way Analysis of Variance of the TSCS Scores
for Experimental Subgroup Three

Source of Variation	Degrees of Freedom	Sums of Squares	Means Squared	F Value
Subjects	9	13091.20	1454.58	1.57 ¹
Tests	1	369.80	369.80	
Residual	9	2121.20	235.69	
Total	19	15582.20		

¹ F to be significant at the .05 level = 5.12 with 1 and 9 degrees of freedom.

Table 18
Two-Way Analysis of Variance of the TSCS Scores
for Experimental Subgroup Four

Source of Variation	Degrees of Freedom	Sums of Squares	Means Squared	F Value
Subjects	9	17267.00	1918.56	.004 ¹
Tests	1	.80	.80	
Residual	9	1696.20	188.40	
Total	19	18964.00		

¹ F to be significant at the .05 level = 5.12 with 1 and 9 degrees of freedom.

Control group (TSCS). The control group (N = 11) was composed of subjects who had no modern dance instruction during the 10-week duration of the study. The initial control group mean was 338.82 and the final mean was 338.00. It was determined that there was no significant difference between the control group's mean performance on initial and final TSCS measures due to the nonsignificant F value (.03) obtained by two-way analysis of variance. An F value of 4.96 with one and 10 degrees of freedom was required for a significant difference. The results of this analysis are shown in Table 19.

Analysis of the Relationship Between TTCT and TSCS Scores

To test hypothesis three, a significant relationship exists between general creative-thinking abilities and self-concept, Pearson's Product Moment Correlation technique was utilized yielding a correlation matrix of coefficients (Table 20). The correlation between initial TTCT and TSCS means was .0731. The correlation coefficient between final TTCT and TSCS scores was .0676. Both values depict that virtually no relationship exists between self-concept and general creative-thinking abilities as measured by the TTCT and TSCS.

Additional Statistical Analysis

Additional statistical analysis of the data was conducted after the initial hypotheses were investigated.

Table 19
Two-Way Analysis of Variance of the TSCS Scores
for the Control Group

Source of Variation	Degrees of Freedom	Sums of Squares	Means Squared	F Value
Subjects	10	12666.82	1266.68	.03 ¹
Tests	1	3.68	3.68	
Residual	10	1158.82	115.88	
Total	21	13829.32		

¹ F to be significant at the .05 level = 4.96 with 1 and 10 degrees of freedom.

Table 20

Correlation Matrix of TSCS and TTCT Initial and Final Measures

	1	2	3	4
1	1.0000			
2	.8017	1.0000		
3	.0731*	.1064	1.0000	
4	.2131	.0676*	.6519	1.0000

Note: N = 52

* Insignificant relationship

1) Self-Concept (TSCS) Initial = 345.9038

2) Self-Concept (TSCS) Final = 345.6731

3) Creative-Thinking Abilities (TTCT) Initial = 200.0000

4) Creative-Thinking Abilities (TTCT) Final = 200.0000

Selected aspects of the Tennessee Self-Concept Scale which included components of physical self, personal self, social self, self-criticism, and variability, were further analyzed. The results of the analyses are shown in Appendix D.

Discussion of the Results

The statistical evidence which resulted from this study indicated that individuals' creative-thinking abilities and self-concepts were not affected by creative experiences in modern dance. It was indicated also that no relationship existed between creative-thinking abilities and self-concept. Though these findings do not provide evidence in support of dance educators' claims that modern dance develops one's creative ability and self-concept, these results must be viewed within the perspective of the particular environment in which the study took place.

The lack of significant change in the subjects' creative-thinking abilities may be accounted for in three ways. The presentation of the creative activities as it relates to the nature of the creative process is a source of two possible explanations. According to creativity experts, creative production emerges from an individual's absorption in a topic and begins in a state of imaginative suspense (Roe in Rothenberg & Hausman, 1976). Ghiselin (1952) characterized this state as one of yearning and confused

excitement. Implied in these descriptions is the individual's personal interest in the idea at hand. The creative activities presented to the subjects of this investigation were designed in advance of each class meeting and without knowledge of the subjects' interests. Thus it is possible that the material did not provide for nor fulfill the students' interests or needs. Dance educators have recognized that if personal growth is to occur, creative experiences must be oriented to each individual's uniqueness (Hawkins, 1965; Hayes, 1955; H'Doubler, 1925; Lockhart & Pease, 1975).

As theorized by Wallas (cited by Stein in Parnes, 1962), four stages are involved in the development of creative ideas. One stage which he identified, "incubation," seems particularly pertinent to this discussion of results. Wallas described incubation as the period when the individual is not consciously concerned with the problem. Ghiselin (1952) referred to this period as an involuntary state when the mind is free from preoccupation with specifics. In this study, the time framework in which the subjects investigated solutions to problems was predetermined. Because this restriction existed, it seems reasonable to assume that the subjects' experience of the incubation stage was limited, and that their efforts to solve problems were procedural and consciously directed.

A third possible explanation of the lack of change in subjects' creative-thinking abilities may be derived from the lack of high correlation between initial and final measures of the Torrance Tests of Creative Thinking, Forms A and B. A correlation of .65 does not necessarily indicate a lack of the sensitivity of the TTCT to detect change. The correlation may have been affected by systematic biases, i.e., growth and maturation, over the ten week period of the study. Individual changes possibly occurred which were not due to the treatment effect of creative modern dance activities. These systematic individual changes were detected by the correlation statistic and not by the F tests which were tests of variance around group means.

The analysis of data revealed that the subjects' self-concepts did not change significantly from the beginning of the study to the end of the investigation. This result of no change may be accounted for by the theory that the self-concept is a relatively fixed and stable construct (Fitts, et al., 1971; Purkey, 1970). If change in the self-concept is to occur, especially as a result of an educational experience, certain favorable conditions must exist. Consideration of two of these conditions is relevant to this discussion of results.

The first condition is that the learning experience must be meaningful and self-enhancing if the individual is to grow in self-esteem (Purkey, 1970). The meaningfulness one derives from a learning situation is dependent upon how well one relates to what is being learned and the personal value of the learned information. The creative modern dance activities presented to the subjects of this investigation focused on content and processes appropriate to creative problem solving in modern dance. Consequently, individuals' interest may not have been stimulated and certain needs may have gone unfulfilled.

The role the teacher assumes in the classroom is a second condition which tends to create changes in students' self-concepts. Purkey (1970) stated that "in order to influence students it is necessary to become a 'significant other' in their lives" (p. 45). What the teacher believes and what the teacher does are two factors which determine his/her relationship with the student. The beliefs a teacher has about himself/herself and the beliefs he/she maintains about the students "not only determine that teacher's behavior, but are transmitted to the students and influence their performance" (Purkey, 1970, p. 48). The atmosphere the teacher creates within the classroom, as well as that individual's

sensitivity to others are also strategic factors which tend to foster changes in students' self-concepts.

Within the realm of this investigation, no attempt was made to control the instructors' teaching styles or classroom behaviors. Thus it would be presumptuous to make conjectures about their influences upon and relationships with their students.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

Summary

Dance educators often have alluded to the notion that modern dance augments students' creative potentials and self-concepts. This study was designed to investigate the effect varying amounts of creative modern dance experiences had on subjects' creative-thinking abilities and self-concepts. The subproblems of this study were:

1. To determine if varying amounts of creative modern dance activities affect individuals' creative-thinking abilities as measured by the Torrance Tests of Creative Thinking, Figural Form A and Figural Form B.
2. To determine if varying amounts of creative modern dance activities affect individuals' self-concepts as measured by the Tennessee Self-Concept Scale, Counseling Form.
3. To determine whether and to what degree a significant relationship exists between individuals' creative-thinking abilities and self-concepts.

Subjects were 52 male and female undergraduate, non-dance majors enrolled in the basic physical education program at the University of Georgia. Of the 52 subjects, 41 subjects were enrolled in one of two beginning modern

dance classes and were involved in the experimental phase of the study. Eleven subjects were selected from five nondance physical education classes and comprised the control group. For purposes of comparison, the experimental subjects were assigned at random to one of four subgroups. Each subgroup received different amounts of creative modern dance activities. More specifically, the 11 subjects in subgroup one received four creative modern dance activities; subgroup two, composed of 10 subjects, received eight creative modern dance activities; subgroup three, composed of 10 subjects, received 12 creative modern dance activities; and the 10 subjects in subgroup four received 16 creative modern dance activities. The control group experienced no modern dance instruction during the investigation.

The focus of this investigation was on the effect the one independent variable had on the two dependent variables. Creative-thinking ability was one dependent variable. To measure each subject's ability on this particular factor, the Torrance Tests of Creative Thinking were administered. The TTCT, Figural Form A was the pretest measure and the TTCT, Figural Form B was utilized for posttesting. The second dependent variable considered in this study was self-concept. The Tennessee Self-Concept Scale, Counseling Form was used as the pretest and posttest measurement instrument of self-concept.

The one independent variable applied in this investigation was the varying amounts of creative modern dance activities. Exploration, improvisation, composition and performance comprised the creative activities. The manipulation of this variable was executed by administering different amounts of these activities among the four experimental groups. A dance faculty member was responsible for all applications of the independent variable. After each subgroup received its designated amount of the creative modern dance activities, the subjects participated in a modern dance technique class for the remainder of the quarter. The technique class was conducted by an undergraduate dance major student.

The experimental period covered 10 weeks in the Fall, 1977 and included 20 class meetings, each 45 minutes in length. Pretesting of the experimental group on the TSCS was accomplished during the first class meeting. The TTCT, Figural Form B, was administered to that group during the second class meeting. The TTCT, Figural Form A and the TSCS were administered to the control group during the fifth or sixth class meeting. At the end of the experimental period, the experimental group was posttested on the TTCT, Figural Form B and the TSCS on the 20th day of class. The control group was posttested on both measures during the 19th class meeting.

The investigator computed the sums of the TTCT scores and the sums of the TSCS scores for each subject. The means and standard deviations were obtained on the experimental and control group data. A one-way analysis of variance was used to determine if initial differences existed among mean performances of all five groups on the two pretest measures and to determine if final differences existed among the group mean performances on the two posttest measures.

A two-way analysis of variance was used to determine if group mean performance on the TTCT and TSCS changed from pretest to posttest within each group.

The null hypotheses were rejected if the F value was significant. The .05 level of significance was used and was determined in advance of data collection.

The Pearson Product Moment Correlation technique was used to determine whether and to what degree a relationship existed between creative thinking abilities and self concept.

After 10 weeks, the findings of this investigation were as follow:

1. The final difference in the mean performances among all five groups on the TTCT was not statistically significant at the .05 level.

2. The final difference in the mean performances among all five groups on the TSCS was not statistically significant at the .05 level.

3. The final difference in the mean performance within each of the five groups on the TTCT was not significant at the .05 level.

4. The final difference in the mean performance within each of the five groups on the TSCS was not statistically significant at the .05 level.

5. The correlation technique revealed that virtually no relationship existed between creative thinking abilities and self concept.

Additional statistical analyses of the TSCS data were conducted after the original hypotheses were investigated. Data related to the selected aspects of self-criticism, variability, physical self, personal self and social self are reported in Appendix D.

Recommendations

The following recommendations appear justified in view of the analysis of data and consideration of the literature.

It is recommended:

1. That a study be designed which allows students the opportunity to select and design personally relevant modern dance activities.

2. That a study similar to this one be conducted which has as its focus the creative process and the quality of the creative experiences.

3. That a study be conducted that allows students to master a degree of technical skill and to become familiar with concepts related to creative activity before they are asked to participate in creative modern dance activity.

4. That the design of this study be replicated with motor creativity and body image as the dependent variables.

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APPENDIXES

APPENDIX A
Lesson Plans

SUB-UNIT ONE

Focus: Body Part Awareness

Lesson 1 (Oct. 3, 1977)

Emphasis: Exploration

Thematic Elements: Body part movement and body leads

Content:

- I. Discussion of what exploration means and its purpose as it relates to dance.
 - A. Definition of exploration - a creative modern dance activity in which the dancer explores ranges of body part or total body movement as he/she interprets time, space, force cues given by the instructor. (Jude, you may wish to reword this definition and/or elaborate on it. The concept should remain unchanged.)
 - B. Purpose of exploration - Exploration allows the dancer time and opportunity to discover what his/her body mechanically can or cannot do. Each dancer's body has different capabilities and potentials, thus it is important that individual begins his/her dance experience with an awareness of his/her body and movement "status." (Jude, as with the definition, feel free to put the above in your own words. Again, the concept should remain the same.)

II. Exploration activities

- A. Body part movement capabilities
 1. Think about each and every part of your body that moves, either in isolation (head, eyes) or moves in coordination with another body part (lower leg with thigh, upper arm with lower arm).
 2. After thinking of all moving parts, move each of those parts in as many different ways as possible (rotate, flex, circle).

B. Body leads

1. Choose a hand, shoulder, head, hips or any other part. Experiment again with its possibilities for movement. Then use it to initiate movement of your whole body (body lead).
2. Select another body part and repeat the process stated in B.1.
3. Repeat B.1. with another body part.

C. Space and body leads

1. Repeat B.1., B.2., and B.3. but execute each one covering different amounts of space. For example, B.1. may be a body lead which covers a very small amount of space. B.2. may cover expansive space. B.3. may cover as much space as possible but without locomotion.

D. Interchanging body leads upon instructor given cues

1. Without locomotion. Instructor identifies the body lead (shoulder, head). Student explores that lead. Instructor changes the lead, students reacts. (Jude, use as few or as many leads as seems appropriate to the class response.)
2. With locomotion. Repeat the above, D.1. but all changes should happen without stopping the locomotion, i.e., movement should be fluid.

E. Body part connection

1. Explore the possibilities for movement with two parts of the body connected (elbow to knee, head to shoulder)
2. Try the same problem with another person (head to head, hand to rib cage)
3. With partners, explore the possibility of the connection as a body lead. Several different connections may be explored.

- III. End class with brief discussion on what the students learned about themselves as movers, what they enjoyed, did not enjoy, why, etc.

S.U. One

Lesson 2 (Oct. 5, 1977)

Emphasis: Structured improvisation

Thematic considerations: Body connections and shape

Content

- I. Brief explanation of structured improvisation and its purposes as it relates to dance.
 - A. Explanation of structured improvisation. Improvising in dance means creating on the spur of the moment. A structured improvisation is one which provides limitations to the dancer before he begins moving. These limitations will be set ahead of time with reference to the subject matter of the improvisation. During the improvisation, you respond not only to previous movement material, but continually in reference to the original problem (Cheney & Strader, 19 , p. 53).
 - B. Purposes of improvisation (Cheney & Strader, 19 , p.)
 1. Aids the dancer in the development of his/her sensitivity - sensitivity to time, to space, to energy, to yourself, to other people and to motion.
 2. Aids the dancer in discovering "new" movement for choreography and in developing the choreographic data.
 3. Allows for the discovery of one's natural movement style.
- II. Structured improvisation activities. The activities will be related to those done during the exploration phase in Lesson 1. A brief verbal review of those activities may be helpful.
 - A. Body part connection with partners and in groups
 1. Review D.2. (Body part connection, exploring movement possibilities with a partner) of Lesson 1.

2. After review, students are to move across the floor with partners changing their contact points (connections) at every fifth drum beat. Students should make each connection without stopping their progress across the floor and should strive to make the connection "out of the ordinary."
3. Increase group size to three or four students. On drum beat, establish an interesting connection. On each drum beat that follows, change the connection. (Jude, you determine how many changes and how much time in between beats. As they become more comfortable, time between beats or changes should become lessened.)
4. In the groups of three or four, establish a connection and move the shape in a straight path across the floor.
5. Establish another connected group shape. Make the total shape revolve across the floor.
6. Establish another connected group shape, make it travel in a straight path, but at some point each member of the group must make a complete turn, trying to not break the connection.

B. Movement relationships

1. Reflection. Work with a partner. Face each other as you would your reflection - in a mirror. Establish a line between you to represent that mirror. Improvise slowly, being sensitive to the shapes being made. Let the initiation of movement pass from partner to partner, with no verbal communication.
2. Reflection relationships. Using the mirror idea, one partner chooses to be the initiator moves slowly in any way he/she wishes, but should keep simplicity in mind. The other partner reflects the movement (its path and shape) with a different part of the body i.e., facing each other, the initiator makes an upward arc with the arm, the partner may make an upward arc with the head.

- III. End class with a summary of the experiences as related by the students with volunteers showing their most enjoyable improvisation.

S.U. One

Lesson 3 (Oct. 10)

Emphasis: Composition

Thematic consideration: Design and body part lead

Content

- I. Brief explanation of composition -- Defined as a process in which the dancer creates, selects and organizes movement that gives form to and expresses his/her idea about something. In dance composing is the ultimate creative activity (Hawkins, 1964).
- II. Some purposes of composition
 - A. Provides the individual the opportunity to express in visual/kinetic form his/her uniqueness.
 - B. Develops the individual's aesthetic sensitivities.
 - C. Encourages the generation of movement ideas and sensitive selection of appropriate movement ideas.
- III. Composition assignment. (Jude, you may wish to review one of the exploration or improvisation activities as a warm-up):

In groups of two, three or four, design an interesting starting position. From that starting position lead with a body part into a second position. From the second position, lead with a different body part into a third position. From the third position, lead with a different body part into the original starting position.

Once familiar with the positions, try leading into and out of them without pausing, i.e., pass through them.

Considerations: time/space/force

Compositions to be shown on Wednesday, Oct. 12.

S.U. One

Lesson 4 (Oct. 12)

Emphasis: Performance

Thematic Assignment: Design and Body Part Leads

Content

- I. Brief discussion of some of the purposes of performing as it relates to the studio situation.
 - A. Performing an individual or group piece should be regarded by the performers as a sharing experience. It is an opportunity to show others the unique way in which the composer(s) chose to solve a movement problem.
 - B. Observing others' compositions should increase an awareness of further movement possibilities.
 - C. Constructive and objective evaluation by classmates and the instructor is afforded once a piece is shown. The evaluation helps the composers realize the strengths and weaknesses of their choreography and also helps the audience understand what to look for in a dance.
- II. Evaluation. Judge, give comments after each composition and encourage others to share their observations. The criticisms should be directed toward the concept that if they were to continue working on the compositions, they may want to go back and smooth out a problem with the transitions, timing, energy, design etc. Remarks should be constructive but not necessarily always positive. As you have said, the product should strive toward integrity.

SUB-UNIT TWO

Focus: Energy

Lesson 1 (Oct. 17, 1977)

Emphasis: Exploration

Thematic emphasis: Kinesthetic awareness of energy through exploring sustained and percussive movement.

Materials: Elastic, records Makrokosmos, Volume I (to be used as background, any selection) and E. Power Biggs' Greatest Hits, "Bach: Fugue in G Minor" (to be used with II. D.4.)

Content:

- I. Discussion of energy, or force, as an aesthetic element and as it effects movements qualities.
 - A. Energy as an aesthetic element. The aesthetic quality of dance movement is determined by the flow and control of energy. Energy, or force, is the source of movement, and it is also the basic ingredient in the aesthetic qualities of dance. The play of forcers set in action by the structured movement tension evokes a kinesthetic response in the perceiver and thus enables the dancer to communicate. The tension aspects of the movement cause the observer to empathize or "feel into" the dance thus its import (Hawkins, Creating Through Dance, pp. 34 & 35).
 - B. Force as it effects movement quality. The quality of movement can be controlled in two ways: (1) by varying the amount of energy expended; and (2) by releasing energy in different ways. When a great amount of energy is used, we think of movement as being strong, possessing a high degree of tension. When minimum amounts of energy are expended, we think of the movement as weak and lacking tension.

When energy is suspended suddenly, the movement will appear sharp and jerky. This percussive type of action may be the sudden thrust of the arm, the quick twist of the torso, or the explosive jump in the air.

II. Exploration activities


- A. Warm-up. The warm-up "superficially" explores various energy expenditures and is imitative, i.e., facing the class, the instructor improvises movement which treats various energy levels - weak, strong, explosive, sustained, etc. - and the class mimics her actions. This activity is similar to the "mirror reflection," but rather than a one on one situation, it is a one against the entire class situation.
- B. Individual prop manipulation. Issue each student an elastic prop. Ask them to spend a few minutes making designs with the elastic, using the body to accomplish the shapes, e.g.



Consider the different spatial levels. This part of the exploration will most likely be interspersed with many stops. That is okay.

After familiarizing themselves with possible designs, ask that they explore the following:

1. Moving fluidly and very controlled from one shape to another with only the amount of energy required to stretch and resist the elastic.
2. Repeat the above, but imagine the elastic to be five times more resistant. Be aware of the body tension. Have 1/2 the class observe the other 1/2.
3. Without using the elastic, repeat #2 remaining true to the use of energy. Have 1/2 class observe other 1/2.

- C. Small group prop manipulation. Have class divide themselves into pairs or groups of three. Each student in the group is to attach himself to other group members with his elastic. The result may be a web-like design. Ask the groups to explore design possibilities. The placement of the elastic may change. Again, this activity may be stop and go. After familiarizing themselves with design possibilities, lead them through the same activities listed in II. B.1,2, & 3.
- D. Individual prop manipulation, sustained/ percussive, with counts. Ask the students to prepare for the following activities by holding the elastic in each hand and connected around one foot, e.g. 
1. On count one, they are to explode into a fully stretched position. On counts two, three and four, they are to return to the beginning position, sustaining the energy.
 2. Repeat above #1, exploding into another design on count one, and returning to the beginning position on counts two, three and four. Continue through two more designs.
 3. Reverse the process of quality attack. On counts one, two and three sustain the energy into the fully stretched position. On count four, percussively snap back to the beginning position. Continue through three more designs.
 4. Repeat the above activities (1 & 3) moving continuously from the first four attacks (count one percussive, counts two, three and four sustained, repeated three times) into the second and reversed attack (counts one, two and three sustained and count four percussive, repeated three more times). Perform the sequence to Bach's "Fugue in G Minor," side 2, band 5. If time permits, let the groups observe other groups.

(Jude, for activities II. A, B, & C, play any selections of Makrokosmos, Volume I.)

S.U. Two

Lesson 2 (Oct. 19, 1977)

Focus: Energy levels

Approach: Improvisation

Emphasis: Movement Qualities, Percussive & Sustained

Purpose: To experience by doing and viewing, the communicative possibilities of percussive and sustained movement qualities.

Content:

I. Brief review of purposes of improvisation

- A. To develop spontaneity
- B. To increase movement vocabulary
- C. To experiment with communicating through movement

II. Warm-up. Select any of the below

- A. Mirroring the instructor (as in Oct. 17 warm-up)
- B. Group resist/relent.
 - 1. Have class stand or sit in a circle holding hands with person on each side.
 - 2. Everyone begins swaying in a previously determined direction. Continue the sway side to side until other kinds of movement evolve. The total group should remain connected so that each member can feel a compelling relent/resist movement relationship grow.
- C. Moving across the floor three or four persons at a time (as in a technique class) do the following:
 - 1. Run full speed. Repeat.
 - 2. Give the impression of running, but execute the run in slow motion (sustained). Do not sacrifice the urgent quality of a run. Repeat.

3. Execute a normal walk for four counts. One next four counts, execute four percussive movements. Repeat across the floor.
4. Repeat #3, but substitute four counts of sustained movement for the percussive.

III. Improvisations

- A. Electricity. Purpose is to become more aware of movement (stimulus)/response. Group students of a circle of five, six or seven students and have the number of 1 thru total number in group.
 1. First person (#1) initiates a percussive movement towards #2. #2 initiates another percussive movement towards #3. Continue around circle. Last person in the circle receives the percussive movement and sends back another percussive movement. Repeat as necessary.
 2. Repeat above with sustained movement. Repeat if needed.
 3. Basically, repeat the above, but alternate the responses. #1 percussive, #2 sustained, #3 percussive etc. Repeat, switching the quality roles, i.e., #1 sustained, #2 percussive, etc.
 4. Repeat the electricity concept encouraging students to respond with whatever quality the feel is appropriate.
 5. Alter the formation and ask students to organize themselves into lines. Repeat any of the more interesting of activities 1-4.

Jude, have groups observe other groups whenever you feel it is appropriate. Encourage their comments on what affected them kinesthetically or emotionally. You may want to make the point that in compositions movement must have a reason or motivation for occurring. Directing energy from one dancer to another is one method of achieving motivation.

B. Followspot. Purposes are to continue experimenting with sustained and percussive movement and to explore their communicative aspect. Movement motivation should also become apparent.

1. Have students stand anywhere they wish as long as they are facing a wall. Each is to imagine that a spotlight is on the wall in front of them and that it is focused on them. The spotlight slowly begins to change its focal point to many other places in the room. The dancer is to follow the change of focus with any part of the body, as in body lead. The movement can be both stationary and locomotor. Emphasize the necessity of visualizing the spotlight.
2. Repeat above, but spotlight now is imagined as abruptly changing its focus. The body part lead should reflect this.
3. Combine 1 and 2. Student decides when the spotlight changes its quality of focus and should be encouraged to vary body leads.
4. Jude becomes everyone's Spotlight. As she moves around the room each student follows her with various body leads. They are not copying her movement, simply focusing on her. At some point she will "toss" an imaginary ball to the class. They are to "catch" it with any body part and return it to her at which time she receives it with some body part and throws it back. Continue until class has experimented sufficiently with different body parts and different timings.
5. With a partner, repeat #4. (Jude, you may want to demonstrate first. Encourage students to incorporate both movement qualities into the followspot improvisation.)

(Have students observe whenever you feel appropriate. Mention that their composition assignment can be based on the partner followspot improvisation or on the elastic (concentrating on energy releases and design. Time permitting, they may begin playing with either idea.)

S.U. Two #3

Lesson 3 (Oct. 24, 1977)

Focus: Energy

Approach: Composition

Thematic choices: Followspot, Electricity or Elastic

Purposes: To consciously relate and contrast energy releases and energy levels among/between group members

Content

- I. Warm-up. Repeat warm-up C. from Lesson 2 (Oct. 19, 1977). Vary as desired. (Warm-up C. was the running, running in slow motion, walking interspersing contrasting movement, walking interspersing sustained movement, etc.)
- II. Composition assignment. Students may select one of the following composition assignments.
 - A. Followspot. Limited to groups of two. Partners are to pass (toss?) an imaginary object back and forth, utilizing different parts of the body and different energy releases and energy levels. Weight of the object (which may change) and level of toss and reception should be clear.
 - B. Electricity. Groups must have at least four members. Group may design any beginning formation and position. Contrasting and relating energy releases are to be passed from member to member. A break from the original formation may occur.
 - C. Elastic. Maximum size of group is three. Without intertwining, but considering the total spatial and energy relationships among members in the group, students are to design visually interesting shapes and relate and contrast energy releases and levels in design transitions.

All movement in the compositions is to be set and repeatable. Approximate length of the compositions should be thirty seconds.

S.U. Two #4

Lesson 4 (Oct. 26, 1977)

Focus: Energy

Approach: Performance

Purpose: To reveal to the audience the group's movement concepts of energy releases and energy levels.

Content

- I. Warm-up. Five minutes to review compositions.
- II. Performance. Each group shows that they have composed.

Suggestions:

- 1. Before or after showing each piece, the group may briefly discuss with the class what they tried to achieve.
- 2. If compositions seem to be non-literal ask if anyone drew literal connotations from the piece.
- 3. Compositions using elastic may be repeated without the prop to show same (or different) use of energy.
- 4. To view compositions, class may sit "in the round" for different perspective.

SUB-UNIT THREE

Focus: Rhythm

Lesson 1 (Oct. 31, 1977)

Emphasis: Exploration

Thematic emphasis: Varying the rhythmic elements of duration and accent of teacher-presented movement phrases.

Purpose: To establish the awareness that rhythmic variations affect the expressive value of movement.

Materials: Jude, you will need to compose two movement sequences. They may be locomotor, non-locomotor or a combination of the two. One should be completely "monotone" rhythmically i.e. all movement of the same duration and absent of pulse and accent. The second one should be a four measure of 4/4 time phrase complete with variations of time duration and including accents.

Content

- I. Brief discussion of the following concepts. Attached is a copy of Hawkins' thoughts about rhythm. Underlined on the copy are the concepts to be presented.
 - A. Rhythm is one of the most powerful aesthetic elements of dance.
 - B. Recurring movements set in action by new expenditures of energy produce change and reveal the time element of the activity. Each recurring movement cycle exists for a specific period of time; that is, it has a duration. The duration of each movement and movement cycle is fixed in proportion to each other. The action may exist for a long or short period of time.
 - C. Emphasis, or stress, added at certain points in the movement structure affects the tensional relationships of the dance.

S.U. Three #1

II. Warm-up. Same for each class.

A. Duration of running steps. Organize students in two rows to move across floor two at a time.

1. Have them execute their normal run.
2. Have them execute the run again keeping each running step equal in duration (any tempo can be established by the dancer and must remain constant.)
3. Repeat running steps contrasting the duration of steps (some quick, some slow).
4. Repeat normal run, but stress in any manner every fourth step.

B. Duration of body part movement. (Hawkins, pp. 55-56)

1. Move the arm in a large circle. Then repeat several times, keeping the size of the circles and speed of the movements the same. May want to use a six count time framework.
2. Moving at the same speed as above, inscribe a small circle.
3. Continue the movement and make several exact repetitions of the small circle. Now repeat the large circle and concentrate on the duration of the movement. Repeat the small circle and a small circle alternately.
4. Repeat the same pattern of circular movements using other parts of the body.

III. Major activity. Note activity is varied between classes.

A. 2nd Period Class only. Presentation of non-phrased (monotone) sequence for exploring durations and stresses.

S.U. Three #1

1. Teach the monotone sequence to the class.
 2. Have individuals work with the duration concept by asking them to increase the duration of some movements and decrease others. Encourage exploration of the many options and allow time for students to arrive at the one self-made phrase that feels right.
 3. Have students add at least three "stress points" to the movement phrase. It may be suggested that this might be achieved by taking a stronger step or executing an attacking energy release. Again, encourage full experimentation and allow time for the student to learn his final phrase.
 4. Repeaters (those making up composition and/or performances) are required to show and receive comments. Names of those students will be given to you.
- B. 3rd Period Class only. Presentation of a four measure of 4/4 time phrase to be varied by individuals.
1. Teach the phrased sequence to the class, pointing out durations and stresses of accents.
 2. After learning the phrase, they are to vary the original durations and stresses. They may explore varying each element independent from the other or they may consider both simultaneously. Their method of working with the concepts is up to them. Encourage full exploration of the possibilities and allow time for them to feel comfortable with their final phrase.
 3. Repeaters must show and receive comments on their product. Names will be supplied.

S.U. Three #2

Lesson 2 (Nov. 2, 1977)

Focus: Rhythm

Emphasis: Improvisation

Thematic emphasis: Free response to rhythmic patterns
and musical moodsPurpose: Using rhythmic patterns as a basis, to progress
towards free improvisation

Materials: Records. Barry Lyndon, side 2, band 4 (long
piece)
"Sicco," side 1, band 1
The Fires of London, side A, begin-
ning band
Hand drum

Content

- I. Review. Briefly discuss the exploration lesson of October 31, 1977, emphasizing rhythm as an aesthetic element and duration and accent.
- II. Warm-up.
 - A. Responding to rhythmic patterns. Students are to listen to the instructor present rhythmic patterns (played on drum). They then clap the pattern. Instructor repeats the same pattern. Students then move spontaneously to the pattern as instructor accompanies with drum. Basically, the warm-up for each rhythmic pattern is listen, clap, listen, move. Suggested rhythmic patterns follow.

1. $\frac{4}{4}$ 
2. $\frac{4}{4}$ 
3. $\frac{4}{4}$ 
4. $\frac{4}{4}$ 

5. $\frac{4}{4}$ ○

6. $\frac{4}{4}$ 

- B. Instructor combines any four of the six measures into a phrase. Clap or beat the phrase for class. Have class repeat it until learned.

Instructor accompanies class as students improvise to the rhythmic pattern. Repeat three times asking students to respond with different movement each time.

III. Major activities. The primary purpose of the following activities is to ease students into free improvisation.

- A. With music from Barry Lyndon, side , band , improvise to the previously learned rhythmic pattern. Establish another rhythmic pattern as improvisation evolves. Regard the mood of the music and its elements of duration and accent. At times contrast movement duration and accents with music.
- B. Repeat A. to the music "Sicco," side 1, band 1.
- C. To the non-metered music by Davies, The Fires of London, Side A, beginning of band, improvise freely trying to capture the mood or quality of the piece.
- D. In groups of two or three, arrange a starting position and formation. To the music of Davies, improvise as a unit. Attempt to be sensitive to movement within the group by relating and reacting (as in "Electricity") as spontaneously as possible. Each group is to sense when the improvisation begins and ends.
- E. Have groups watch each other.

- IV. Follow-up. If time allows, a discussion about free improvisation and the classes' reaction to the experience might be appropriate.

S.U. Three #3

Lesson 3 (Nov. 7)

Focus: Rhythmic elements

Approach: Composition

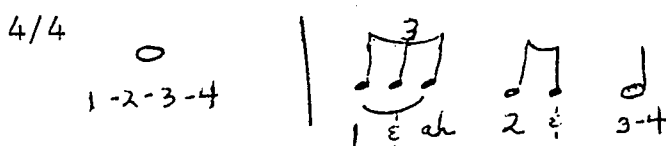
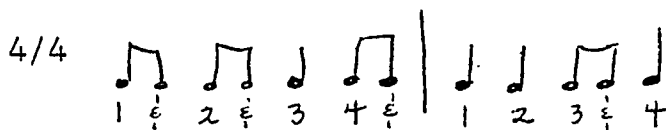
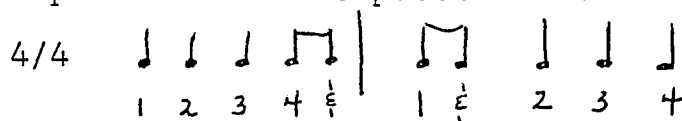
Thematic emphasis: Use of improvisation as a method for arriving at structured movement. Movement duration and accent are thematic considerations.

Purpose: To recognize the functional relationship between the improvisational method and composition, i.e., improvising movement which is directed towards a particular composition assignment facilitates a fresh movement vocabulary.

Materials: Hand drum
Alwin Nikolais record (side B, band 3 "Fixation")

Content

- I. Warm-up. Responding improvisationally to the suggested rhythmic patterns. Instructor beats out rhythmic pattern, student responds by clapping the pattern, teacher repeats pattern, student improvises to the pattern after second listening.



- II. Composition assignment. Using the music by Alwin Nikolais "Fixation" as a stimulus and accompaniment, and utilizing improvisation as method for arriving at structured movement, compose a dance study which includes locomotor and non-locomotor movement. Consider duration and stress contrasts and variations. Compositions may be solo or in groups of two or three. Length of composition is to be same length as "Fixation," 40 seconds.

S.U. Three #4

Lesson 4 (Nov. 9)

Focus: Rhythmic elements

Approach: Performance

Purpose: To share with the class the group's interpretation of duration and stress as they relate to the accompaniment "Fixation."

Material: Alwin Nikolais record (side B, band 3, "Fixation")

Content

- I. Review. Allow 10 - 15 minutes for the class to review their compositions.
- II. Performance. Each group performs its dance study.
- III. Suggestions for discussion of studies
 - A. Procedures
 1. How did the group arrive at the final idea?
 2. Did you use improvisation as a method?
 3. Was it difficult to remember what had been improvised?
 4. Did you improvise as a group or individually?
 5. Did you modify improvised movement?
 6. If you did not improvise, how did you arrive at the movement you used?
 - B. Personal evaluation
 - 1. Are you satisfied with the study?
 2. Should any part of the study be changed?
 3. What about the study did you like best?
 4. Did you feel restricted? If so, why?
 - C. Class and instructor evaluation.
 1. Directed toward what worked within the study and what did not work.
 2. Comments directed towards the total impact of the study. (Some things were questionable, but over all it felt good, for example).

- D. Questions for discussion or for thinking about.
How does a professional choreographer go about composing a dance for sixteen dancers in a period of three weeks? What kinds of knowledge and methods do you think the choreographer must know and incorporate?

SUB-UNIT FOUR

Focus: Space

Lesson 1 (Nov. 14, 1977)

Approach: Exploration

Thematic emphasis: Examination of selected spatial components (body shape, level and direction)

Purpose: To become aware of the aesthetic and expressive potential of space and its essential components.

Content

I. Discussion of spatial components

- A. Body shape or design. The symmetrical or asymmetrical configuration of the body. Explain symmetrical and asymmetrical.
- B. Level. The aspect of space dealing with height from the floor, ranging from a prone position to the greatest altitude as in a leap.
- C. Direction. The spatial path and progress of movement action. Straight, curved, forward, sideward, backward circular etc.

II. Warm-up

- A. Body design. Ask class to think of a symmetrical, inanimate object, e.g., lamp shade, coke bottle, football goal post. Each student is to shape his/her body to reflect the object.
- B. Level. Students are to maintain their basic shape concept arrived at in A., but are to transpose it to a level different from the original.
- C. Direction. Students are to maintain their final shape in B. and move it across the floor moving in the following directions.
 - 1. Forward
 - 2. Backward/Diagonally, always facing front
 - 3. Forward on a curved path/sideward on a zig zag path

S.U. Four #1

III. Major activity

- A. Body shapes. Students are to experiment with body shapes that exemplify each of the following spatial concepts.

1. Symmetrical series

- a. Wide (one design)/Narrow
- b. Curved (one design)/Angular
- c. Aggressive/Forlorned

2. Asymmetrical series

- a. Narrow (one design)/wide
- b. Spiraled (one design)/gnarled
- c. Retreating (one design)/tentative

Have students select one series and move via transitions from a. through b. to c. Transitions can be of any duration and quality.

- B. Body shapes. Students are to design a series of shapes which communicate the following literal or emotional states.

- 1. Symmetrical series. Three shapes which express the condition of anguish./being sly.
- 2. Asymmetrical series. Three shapes which express a flippant quality./sad
- 3. Combined symmetrical and asymmetrical series. (Each of the following shapes to be designed so they can be moved fairly easily across the floor.)
 - a. Design one shape with accompanying locomotor movement which expresses
 - 1) modesty/tension
 - 2) aggression/happiness
 - 3) flippancy/laziness

S.U. Four #1

- b. Move the above series across the floor allowing four counts for the accomplishment of each feeling state. The total twelve count pattern should repeat across the floor as would a technique lesson movement sequence.
- c. Repeat the basic pattern, but vary the counts of each section. For example, modesty 6 cts, aggression 2 cts, flippancy 4 cts.

S.U. Four #2

Lesson 2 (Nov. 16, 1977)

Focus: Space

Approach: Improvisation

Thematic emphasis: Focus on expressive connotations in
use of space

Purpose: To experience the literal, expressive potential
of space utilization

Materials: Peter Davies' The Fires of London (either side)

Content

- I. Discussion and warm-up. Purpose of the following is for individuals to consider how they are affected by various kinds of spatial settings.
 - A. Discussion. Actually there is a minimum of discussion. The following questions are posed for their consideration. They are to think through each question or statement as it is presented. (They thought Monday's lesson was heady!)
 1. What kind of space do you prefer to be in or do you feel most comfortable? (a large room, expansiveness of outdoors, area within a sleeping bag)
 2. Visualize that space in more depth. Detail in your mind the setting, i.e., colors involved, temperature, size, light condition, etc.
 3. Think of yourself in that space at this moment. Are you alone, with another person or in a crowd?
 4. Create a situation for yourself while "mentally" in that space. What you doing?
 5. Enact that situation, remembering all the realities you have imposed on the situation. (Jude, expect pantomime. That's okay as long as preplanning is absent.)

S.U. Four #2

- B. Brief discussion of what they did and how they felt. Comment on how various spatial contexts can affect a person's attitude, movement quality (situationally) and may extend a person's perception of self and others.

II. Major activities

A. Locomotor improvisations

1. Across the floor. Individually

- a. moving down long, narrow hallway (only as wide and high as a body)

- 1) repeat a. and add "dark" to long, narrow hallway

- 2) repeat a. and add to long, narrow hallway, "with walls punctured with spikes"

- b. moving through a maze, running into dead ends, having to retrace steps and try again

- 1) repeat b. and add some type of emotional interpretation

- 2) repeat b. as if being chased and having to play cat and mouse at the same time

- 2. Across the floor with a partner. Repeat 1. again in its entirety, but improvise each part with a partner.

B. Limited Space

1. Group situation

- a. Have class clump themselves together in some part of the room (maybe a corner?). Once in the chosen area, they may not venture more than 7-10 inches outside the area.

S.U. Four #2

- b. Being sensitive to each other and realizing that a plot or emotional situation may develop, but should not be preplanned, ask them to begin moving within the confined area. Concentration is important.
2. Group situation. Emotional state or mood dictates one's use of space.
- a. Students are to select a feeling state or condition (shy, assertive, nervous, etc) and are to freely improvise within that state.
 - b. After having adequate time to feel acquainted with relevant movement, students are to continue their improvisations while expanding their attention to other's in the room.
 - c. After establishing that awareness, each is to react with/to others while maintaining their improvisation.
 - d. Discuss what transpired in c. Were personal spaces violated? Could student sense when "interference" was appropriate? Why did students use space as they did?

S.U. Four #3

Lesson 3 (Nov. 21, 1977)

Focus: Space

Approach: Composition

Thematic consideration: Unpleasant spatial circumstances

Purpose: To organize movement into a brief dance which expresses the effect an uncomfortable spatial situation has on the individual

Content:

- I. Verbal warm-up. Review the process involved in I. of Lesson 2 (Nov. 16). Remind students they directed their thoughts and actions towards pleasant spatial experience.
- II. Composition assignment. Students are to reflect on an uncomfortable (physically, emotionally) spatial circumstance which they have experienced and compose a solo study around that experience. Encourage the use of props to further the communication of the idea. Music may also be selected by the student.

S.U. Four #4

Lesson 4 (Nov. 28, 1977)

Focus: Literal Space

Approach: Performance

Purposes: To share with the class the individual's literal interpretation of an unpleasant spatial circumstance.

Content

Each student performs his/her composition. After performance, the class may react to what the composition communicated and/or the choretographer may explain the central idea and how he/she attempted to relate the idea, i.e., movement quality, spatial considerations, design, rhythmic "feel" etc.

Make-up Lesson

Focus: Concentration/Repetition/Improvisation with sound and movement

Approach: Structured improvisation

Purpose: To arrive at a group study via linking one group member's improvised movement to another's.

Content

- I. Explain to the class that this exercise is based on the circle game "Gossip". Instead of passing verbal phrases around the circle, brief movement ideas are passed around and added on to by each individual. The end result is one extended movement sequence composed of movement and sounds contributed by each group member.

II. Procedure

- A. Class should divide into groups of no less than four members each. If working with a limited amount of students, one larger group should be formed. Have group members number off 1 thru 4 or 1 thru the total number of the group. The group may start sitting or standing in the circle formation.
- B. Group member #1 improvises a brief (2-3 counts) movement idea. Member #2 repeats #1's movement and adds to it. Member #3 repeats #1 and #2's movement and adds his/her movement to it. Continue around the group until the final member has repeated the entire sequence and added to it. Any member may add sound to his/her movement idea. The sound is to be repeated with that movement each time it is performed.
- C. Beginning again with #1, the individual is to repeat the completed phrase adding nothing and striving for accuracy. The second group member does the same after #1 has finished. Continue around the circle until all have performed.

- D. As a group (in unison), perform the entire phrase. If more than one group exists, perform for others in the class.

Groups should be encouraged to keep movement simple, but interesting and be made aware of the need for complete concentration.

APPENDIX B

Experimental Subject Consent Form

CONSENT FORM

I, _____, have been informed that the Modern
(print name)
Dance course (PED 116A) in which I am enrolled for Fall
Quarter, 1977, at the University of Georgia, will be utilized
to study teaching effectiveness and content appropriateness.
I understand that the course is designed in a way that al-
lows for the evaluation of these two areas. The investiga-
tor, Marilyn G. Trigg, has explained that two evaluation
instruments will be administered to student participants in
this study and that all responses and scores will be treated
confidentially. I am aware that the results of my test
scores will be made available to me per my request at the
termination of the study. In light of the above information,
I will / will not consent to be a subject in this study.
(circle one)

Subject's signature_____
Date_____
Witness' Signature_____
Date

APPENDIX C

Letter of Request for Control Subjects

To: Susan Blakely (Volleyball, 3rd period, Mon/Wed)
Bunny Evans (Bowling, 2nd period, Mon/Wed)
Elsa Heimerer (Tennis, 2nd period, Mon/Wed)
Andy Long (Fencing, 3rd period, Mon/Wed)
Brenda Segall (Recreational Sports, 2nd period, Tues/
Thurs)

From: Marilyn G. Trigg

Date: September 30, 1977

Subject: Request for control subjects for dissertation

I am in the process of collecting data for my dissertation which follows an experimental design and need to obtain control subjects for the study. Your class (identified above) meets specified criteria for providing these subjects. With your approval and assistance, I would like to identify several students in your class to participate in the control group. The process will involve randomly selecting consenting individuals, administering pretests during one class period and following up with posttesting during the class period at the end of the quarter. Test administration will be done by me or an assistant.

If you agree to my using your students as participants or have questions about the study, will you please leave a note in my mailbox or call me at 542-2674 (office) or 543-0995 (home). Your help will be greatly appreciated. Thanks!

APPENDIX D
Additional Data Analysis on Selected
Aspects of the TSCS

Additional Data Analysis on Selected Aspects of the TSCS

Additional statistical analyses of the data were conducted after the original hypotheses were investigated. Selected aspects of the TSCS which included components of physical self, personal self, social self, self-criticism and variability were analyzed.

One-way analysis of variance was utilized to determine variability of mean performance among groups for both pretest and posttest measures of the selected components. No significant differences were determined. See Table 1.

Table 1. F Ratios of One-Way ANOVA on Additional TSCS Data

Component	Pretest	Posttest
Self-criticism	2.33	1.59
Variability	1.05	1.30
Physical Self	.49	.89
Personal Self	.48	.48
Social Self	1.49	.76

F to be significant at the .05 level = 2.57 with 4 and 47 degrees of freedom.

Two-way analysis of variance was used to determine within group differences concerning initial and final measures of the selected components. One significant difference was determined on experimental sub-group two's self-criticism scale. Table 2 represents the results of this analysis.

Table 2. F Ratios of Two-Way ANOVA on Additional TSCS Data
Analyzing Initial and Final Measures per Sub-group

Component	Sub-group				Control Group
	1	2	3	4	
Self-criticism	.13	6.87*	1.76	2.97	.00
Variability	.19	.16	1.10	.18	3.91
Physical Self	.22	.09	2.95	.27	.64
Personal Self	.72	.36	.42	1.13	.13
Social Self	.91	.27	1.51	.41	.02

*F to be significant at the .05 level = 5.12 with 1 and 9
degrees of freedom

APPENDIX E
Raw Scores on TTCT and TSCS

TOT Pretest (A) and Posttest (B) Scores on Fluency (Flu.), Flexibility (Flx.)
Originality (Orig.) and Elaboration (Elab.) for Subjects in the
Experimental and Control Groups

	Flu(A)	Flu(B)	Flx(A)	Flx(B)	Orig(A)	Orig(B)	Elab(A)	Elab(B)
<u>Sub-group One</u>								
1	24	23	18	20	34	22	043	032
2	18	17	14	17	24	17	024	045
3	22	26	19	20	31	65	116	101
4	18	25	14	22	25	37	083	088
5	16	26	12	10	19	13	024	043
6	13	15	12	14	23	40	79	97
7	13	22	3	09	26	39	47	57
8	13	08	11	07	29	33	40	32
9	15	24	14	21	22	42	46	86
10	07	13	07	10	18	29	61	76
11	11	11	10	10	23	41	37	61
<u>Sub-group Two</u>								
1	07	16	05	10	9	7	31	38
2	15	14	15	14	17	27	55	92
3	09	13	8	13	9	25	16	44
4	17	23	14	19	30	47	66	59
5	17	17	15	16	19	34	65	55
6	09	21	9	12	14	15	45	40
7	14	10	12	10	28	14	20	17
8	10	13	8	13	22	22	36	42
9	06	06	6	5	21	12	79	65
10	21	21	19	16	34	25	30	44
<u>Sub-group Three</u>								
1	20	24	19	20	25	30	33	35
2	16	21	15	17	18	19	24	39
3	16	27	16	21	31	45	34	62
4	16	18	12	18	27	36	19	47
5	12	15	11	15	12	27	25	83
6	11	20	10	13	16	21	49	107
7	09	14	9	9	36	48	63	70
8	11	16	11	11	16	41	33	46
9	14	16	13	15	19	40	43	43
10	21	16	13	14	28	62	34	45
<u>Sub-group Four</u>								
1	09	21	8	16	19	13	10	38
2	23	24	19	12	41	35	45	74
3	21	16	20	5	30	15	25	42
4	16	25	14	16	23	29	49	63
5	14	27	13	24	12	30	45	68
6	17	19	14	15	29	21	47	79
7	35	35	27	27	57	48	44	122
8	11	18	11	14	20	30	70	116
9	25	24	22	21	37	34	45	54
10	15	17	12	13	32	20	69	92
<u>Control Group</u>								
1	15	19	15	17	24	29	64	79
2	07	11	07	08	09	05	23	51
3	21	20	17	14	31	24	44	51
4	13	12	10	09	26	23	31	26
5	24	19	21	17	32	61	41	58
6	10	12	10	11	16	21	30	53
7	12	23	10	20	16	52	33	33
8	17	27	11	20	25	30	78	69
9	15	19	14	14	20	38	37	36
10	18	21	18	22	27	43	114	136
11	14	27	12	23	21	51	59	91

TSCS Pretest (A) and Posttest (B) Scores on Self Criticism (S.C.), Total Positive (T.P.),
 Variability (V.), Physical Self (Phys.), Personal Self (Per.), and Social Self (SOC.)
 for Subjects in the Experimental and Control Groups

	S.C. (A)	S.C. (B)	T.P. (A)	T.P. (B)	V. (A)	V. (B)	Phys. (A)	Phys. (B)	Per. (A)	Per. (B)	Soc. (A)	Soc. (B)
<u>Sub-group One</u>												
1	35	35	372	386	37	38	74	74	69	71	66	75
2	27	30	381	376	62	46	80	77	73	73	76	75
3	50	50	376	338	32	45	74	66	78	68	77	72
4	27	27	360	343	45	44	66	65	71	71	72	65
5	41	33	342	347	43	45	68	70	66	63	71	72
6	43	42	381	398	53	42	70	78	70	73	82	86
7	36	43	366	357	44	43	66	65	71	66	74	73
8	44	44	284	291	30	31	54	55	57	64	55	52
9	40	46	366	316	51	64	75	78	70	51	80	63
10	37	38	364	355	32	26	76	75	68	66	70	71
11	32	29	345	353	33	25	64	71	68	74	67	65
<u>Sub-group Two</u>												
1	42	44	389	388	48	37	63	67	77	71	80	83
2	36	35	340	338	54	45	58	64	67	68	61	61
3	39	45	299	294	74	87	61	67	58	57	57	53
4	36	35	372	374	27	34	70	68	74	76	74	71
5	29	34	312	336	49	38	61	70	60	67	63	65
6	41	44	355	338	35	48	67	71	71	69	70	67
7	38	45	357	366	52	54	75	74	64	65	69	71
8	36	43	374	352	34	45	77	71	74	66	76	74
9	47	44	310	306	52	56	63	54	55	53	59	63
10	43	48	309	317	51	55	68	63	59	59	68	75
<u>Sub-group Three</u>												
1	23	46	333	321	49	57	70	67	65	58	75	68
2	32	38	324	369	40	29	68	75	60	81	63	69
3	33	35	342	319	33	28	70	65	70	65	67	60
4	26	27	380	366	36	31	67	68	76	70	78	72
5	31	34	317	308	42	33	57	58	69	62	70	63
6	35	33	359	380	48	45	83	86	69	75	71	73
7	32	32	307	323	40	37	65	67	56	62	67	64
8	34	33	298	323	43	47	60	65	57	61	56	62
9	38	38	353	372	43	43	67	78	68	68	69	66
10	38	37	371	389	47	51	78	81	75	81	77	76

	S.C. (A)	S.C. (B)	T.P. (A)	T.P. (B)	V. (A)	V. (B)	Phy. (A)	Phy. (B)	Per. (A)	Per. (B)	Soc. (A)	Soc. (B)
<u>Sub-group Four</u>												
1	33	32	357	354	35	45	67	65	69	70	72	67
2	43	40	357	363	58	50	85	81	63	67	74	74
3	39	43	360	385	52	53	69	76	68	74	76	76
4	43	43	351	351	48	56	67	69	66	67	67	77
5	34	38	388	374	41	46	78	75	77	73	74	74
6	36	44	296	299	86	74	52	68	60	61	74	61
7	36	40	290	305	79	50	41	50	44	56	69	65
8	38	47	396	349	42	61	77	62	75	65	83	77
9	31	32	378	387	40	27	71	72	74	79	75	81
10	35	32	349	351	33	33	63	68	72	71	70	
<u>Control Group</u>												
1	43	34	332	326	42	39	63	64	65	63	62	59
2	39	38	327	337	30	19	63	65	67	67	64	68
3	32	30	342	338	52	43	68	68	62	62	73	69
4	31	33	326	354	39	35	60	69	60	70	70	70
5	34	41	374	361	43	34	78	71	72	70	72	73
6	42	43	298	265	76	67	51	52	59	53	74	69
7	33	39	357	354	55	67	65	70	71	72	72	71
8	43	43	350	347	60	56	77	76	59	62	69	70
9	47	43	321	321	45	45	60	61	64	66	67	67
10	40	44	372	379	44	45	68	65	76	73	66	75
11	35	32	328	336	30	23	63	66	63	65	68	68