To the Graduate Council:

I am submitting herewith a dissertation written by Gary Lee Riggins entitled "The Relationship of Creative Thinking Ability, Classroom Management Skill, and Career Level Status of Elementary School Teachers." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Educational Psychology.

William A. Poppen

William A. Poppen, Major Professor

We have read this dissertation
and recommend its acceptance:

Charles L. Thompson

Accepted for the Council:

Vice Provost
and Dean of The Graduate School

THE RELATIONSHIP OF CREATIVE THINKING ABILITY, CLASSROOM MANAGEMENT SKILL, AND CAREER LEVEL STATUS OF ELEMENTARY SCHOOL TEACHERS

A Dissertation

Presented for the

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Degree

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Gary L. Riggins

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For Jodi,

who continues to teach the author
the wonders of a loving relationship.

ABSTRACT

The classroom teacher's day-to-day task of presiding over a countless number of interactions demands a series of interventions that seem to require a measure of creativity. This investigation examined the relationship of teachers' creative thinking abilities with their perceived skills in "managing" the classroom. A follow-up study was completed on the original participants to assess their Tennessee Career Level status relative to both their creative thinking scores and perceived classroom management skill. Fifty elementary classroom teachers from five schools rated their colleagues in classroom management skill on a one to five scale, and these participants then completed the Torrance Test of Creative Thinking (Verbal Form A). Follow-up data on 39 of the original participants were obtained five years later to assess their Career Ladder status. The management ranking data were used to divide the teachers at the median to form groups of high and low classroom managers. These data were also regressed on the subtests of the TTCT and the attained Career Level status. Groups of high and low creative teachers, classroom managers, and

various Career Ladder levels were parcelled out to examine the profiles of these teacher groups. A bivariate regression analysis of the classroom management scores for all participants and their corresponding TTCT scores revealed a significant correlation. A *t* test of the high and low management groups and their respective TTCT scores revealed a statistically significant difference. There was no statistically significant relationship found between the Career Level achieved and either the measures of creative thinking or peer perception of competence as a classroom manager, although teachers at the extremes of the Career Ladder differed markedly in creative thinking ability, especially on the Flexibility subtest of the TTCT.

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CHAPTER I

INTRODUCTION

In the early 1980's, a blue ribbon panel of experts was convened by the National Commission on Excellence in Education to address a widespread public perception that something was seriously wrong in the educational system (Besag and Nelson, 1984). For the last two decades, Phi Delta Kappa has sponsored an attitude survey to identify the public's perception of the biggest problems with public schools, and for the last seventeen years, the overwhelming number one concern has been the problem of maintaining discipline (Cangelosi, 1988; Wolfgang and Glickman, 1986; Bloch, 1977). The problems that American teachers have in managing student behavior is not a very well kept secret. The importance of this concern was evidenced by its inclusion as a 1984 presidential campaign issue as former President Reagan asserted "we can't get learning back into the classroom until we get crime and violence out" (Wynn and Wynn, 1988, p.103).

Some classroom teachers seem to agree (Masden and Masden, 1981; Charles, 1989). The National Education Association reported in 1981 that 36 percent of

teachers surveyed would not choose education as a profession if they had to decide again. This percentage is more than three times greater than the percentage of teachers queried just ten years earlier (Wolfgang and Glickman, 1986).

Experienced teachers are frustrated (Cangelosi, 1988) and forty percent of new teachers (less than three years experience) are leaving education (Charles, 1989). New teachers cite the "inability to discipline" or "manage the classroom" as the primary cause for dropping out of the profession (Duke and Meckel, 1984; Charles, 1989; Villetoe, 1978). With over a third of new teachers quitting and the more seasoned professionals disgruntled (Wolfgang and Glickman, 1986), the crisis brewing around the issue of classroom management in general and student discipline in particular seems to be heating up (Charles, 1989). Obviously, something must be done. Unfortunately, however, the solutions are not as clear as the problem (Arsulich, 1978; Sprinthal and Sprinthal, 1987).

The literature and professional bookshelves are repleat with "brand new," "pre-packaged," "single interest" answers to classroom management that tout various solutions from contingency management (Taylor,

1984) to videotaping (Yannone, 1984) to humor (Krogh, 1985) and many others. The "recommended" singular procedures are prescribed almost regardless of pupil age or situation (Sprinthall and Sprinthall, 1987). Exclusive approaches, although very innovative and novel, have not appeared to have stemmed the tide of teacher frustration (Cangelosi, 1988).

The emphasis has seemed to shift to an offering of a "rainbow" of discipline methods that allows the teacher to move beyond a singular approach to behavior management to a wide selection of discipline models (Wolfgang and Glickman, 1986; Curwin and Mendler, 1980; Chernow and Chernow, 1981; Duke and Meckel, 1984; Cangelosi, 1988; Charles, 1989). These writers offer the classroom teacher a virtual smorgasbord of alternatives to a given discipline situation, ranging from the "free wheeling" Summerhill approach to strict drug therapy (Curwin and Mendler, 1980). Brophy and Good (1984) point out that the classroom teacher will face over one thousand interactions per day and no two will be the same; consequently, effective solutions for all these very different situations cannot be "cooked up" from the same recipe (Ryan and Cooper, 1984).

As Rogers (1969), Maslow (1968) and Gordon (1974) have so eloquently reminded educators, real, live

squirming individual people populate school houses and, amazingly, not any two share the same fingerprint. These unique human beings create one-of-a-kind situations anytime two or more get together. These meetings are without precedence in human history and are unique events, never to be repeated again with exactly the same variables that define the given situation. When a management problem arises that requires intervention to resolve the conflict, then the skilled teacher must make a solution to fit the occasion (Jones and Jones, 1986; Biehler, 1978). Effective classroom management then seems to demand that teachers continually formulate novel solutions to a myriad of problems that can and do occur in the course of the lesson. Not only must the teacher choose the right model to employ, but he/she must also mold it to fit the situation.

The structuring of unique solutions conjures up the William James' notion that teaching is essentially an art form (1958). If James was right, then like every other art form, effective teaching, in terms of classroom management, should be embellished by the "artsy" term creativity, long associated with problem solving (Torrance and Hall, 1982; Torrance, 1974; Tuckman, Steber, and Hyman, 1979).

It would appear then that one of the correlates of effective classroom management is creativity, a complex and confusing phenomenon generally regarded in a favorable light (Edwards, 1986; Gruber, 1981; Meadow and Parnes, 1959). Its adjective derivative "creative," has been used to describe everything from the creation of a Spanish omelete to a good pedagogical explanation of the export products of Chile (Sadker and Sadker, 1988). Stuller (1982) suggested that this "vastly misunderstood human resource, this precious human quality, lies at the heart of all man made greatness" (p. 37). If teaching, a quintessential human activity, is an art, it seems then that an integral part of the teaching process is the knotty term "creativity." As Torrance and Myers (1970) conclude, the very nature of the teacher role--sensitivity, flexibility, spontaneity, and originality--suggests that teachers must behave in ways characteristic of creative persons.

Statement of the Problem

It seems that the role of original creative thinking in effective classroom management is more important than has been suspected (Yamamoto, 1963). A few studies in the literature (Torrance and Myers, 1970; Yamamoto, 1963; Raina and Vats, 1979; Milgram

and Feldman, 1979; Grief, 1961) have strongly linked various aspects of general teaching effectiveness with creativity, however this investigator can find none that examined the relationship of perceived classroom management ability and specific measures of creativity (defined and delineated later in this study). Therefore, this research focuses on whether or not the teacher's creative thinking ability is related to skills in managing the classroom, and to the recognition of those skills by the state-wide program designed to identify and reward good teaching.

Rationale

The question being asked is, are the complex problems that arise in the learning situation facilitated by a skill in creative thinking? More specifically, do the groups of teachers who are identified by their peers as high in classroom management skills have higher creative thinking abilities than their lower rated colleagues? Additionally, is Career Ladder status related to the variables of creative thinking and classroom management ability?

The investigation of the association of creativity and classroom management skill has a

discrete heuristic value. The problems identified in the Limitations section would strongly curtail the generalizability of these findings, but a closer look at these and other variables of the teacher's classroom management struggles may be suggested by the evidence.

With forty percent of the new teachers leaving the profession and the veteran teachers frustrated with problems in classroom management, the pressure is on to identify and treat the causes (Charles, 1989). This current effort does not attempt to establish a cause and effect relationship, but to provide some insight into the creation of longlasting, effective solutions.

Hypotheses

The following are the hypothesized outcomes of this project with all hypotheses stated in the null.

1. Measures of teachers' creative thinking abilities as indicated by scores on the Torrance Test of Creative Thinking are not statistically related to the perceived classroom management skills of the elementary teachers in this study.

2. A five year follow-up of the original participants in this study will not reveal a

significant correlation of their Career Ladder status and their respective creativity scores.

3. A five year follow-up study of the original participants will not indicate a significant relationship between their attained Career Ladder status and their classroom management skills as perceived by peers.

Operational Definitions

Classroom Management: For the purposes of this study, classroom management is Emmer and Evertson's behavioral definition: "...teacher behaviors that produce high levels of student involvement in classroom activities, minimal amounts of student behaviors that interfere with the teacher's or other student's work, and efficient use of instructional time..." (Emmer and Evertson, 1981, p. 342). Participants in the study will be rated on this criteria and the resulting standard score will be their classroom management score.

Discipline: Operationally defined, it is the maintenance of the social order to maximize individual achievement (Masden and Masden, 1981). However, it is generally conceived as one aspect of the more global term, classroom management, and will be referred to in this paper as such.

Creativity: This paper will borrow the well worn words of one of creativity's "gurus," Paul Torrance, who sees creativity as "...one's sensitivity to problems, deficiencies, and missing elements, searching for solutions, making guesses, formulating hypotheses, testing and modifying the hypotheses and retesting them, and then communicating the results" (Torrance, 1974, p. 8). Specifically, the definition is a set of scores on the TTCT that incorporate fluency, flexibility and originality, the criteria of creative thinking.

The following are definitions of those three constructs of creativity as measured by Torrance's test (Torrance Test of Creative Thinking, Verbal Form A):

Flexibility: The ability to formulate a large number of responses and move between them in a fluid manner, or the number of shifts in thinking (Torrance, 1974).

Fluency: The production of a large variety of relevant ideas and responses (Torrance, 1974).

Originality: The use of ideas that are statistically infrequent (Torrance, 1974).

Career Ladder: The State of Tennessee enacted this evaluation system as part of its Better Schools

Program of 1984 (Appendix F). If the teacher decides to participate, there are various levels that they may apply for with increasing requirements and responsibilities at each level. At Level I, the evaluation procedure is not as extensive as that required for Level III status, the highest distinction. There is a substantial monetary increase with each step to entice teachers to apply for the recognition and reward. The primary goal of this program is to "identify and reward outstanding teaching performance" (McElrath, 1986, p. 1). The program was conceived and designed to evaluate the skills and knowledge that contribute to good teaching, and one of the six domains of teacher competence identified as an important determinant in good teaching is classroom management (McElrath, 1986).

Assumptions

For the purposes of this study, the following assumptions are made:

1. Decisions of when, what, where and how to intervene in students' lives is a management act engaged in by both skilled and less skilled classroom managers. Those that are more skilled should measure higher on a creativity test.

2. Teachers can identify members of their faculty

who are skilled in classroom management by a peer nomination procedure.

3. Creative thinking can be measured by a paper and pencil test and the TTCT is a valid instrument for collecting creativity data.

4. Teachers will report factual information on a five year follow-up survey instrument.

5. Creative teachers are evenly distributed across individual faculties in this study.

Limitations

The following are the limitations to be imposed on the results obtained in this study:

1. The data identifying the skilled classroom managers are based on peer nominations and may be subject to bias.

2. Creativity is an unwieldly phenomenon that has many shades of meaning and interpretation; consequently, it is questionable whether or not it can be quantified.

3. The participation in the study was voluntary and subjects could exercise the right to pass on any part of this investigation. Consideration must be given to the fact that the data may not be representative of the teachers who either did not

choose to participate or who were not present. Therefore, there is a possibility that biased groups were tested and evaluated.

4. The follow-up data were collected after a significant period of time. Original participants may have since changed schools, occupations, locations or retired. This mitigates against receiving a full accounting from the original participants; consequently, the follow-up data are biased in favor of those who did respond.

5. Equating attainment of higher Career Level status with skilled/effective classroom management may be stretching the point. Not all good teachers aspire to higher Career Level status partially due to the attendant responsibilities. The relationship of the Career Level status with skilled classroom managers and creativity measures should be interpeted accordingly.

Organization for the Remainder of the Dissertation

Chapter II is a review of the literature which provides a rationale for the study, a brief history of classroom management and creativity, and a summary of previous research on the relationship between these two. Also included is an examination of the literature related to the various kinds of instruments

used to collect the data.

Chapter III describes the design of the study, development and published data on the instruments used in the study, and the research procedures that were followed. The results of the study are presented in Chapter IV, followed by conclusions drawn from the study, discussion, implications and recommendations for further study in Chapter V.

CHAPTER II

REVIEW OF LITERATURE

This chapter is divided into three sections. The first part will present a rationale for the study by briefly reviewing the development of the concepts of interest: classroom management and creativity. In the second section, the research studies and published efforts that have shed light on the relationship of creativity and classroom management will be reviewed. The last section of this chapter will review the research and published opinions of the kinds of instruments used in this study.

Rationale

Development of Classroom Management Concept and Technique

Ancient clay tablets discovered in an archeological dig in Samaria reportedly were translated "Grow up. Go to school. Stop hanging around the public square. Night and day you torture me. Night and day you waste your time having fun "

(Sprinthal and Sprinthal, 1987, quoted from Every Day Life in Bible Times, 1968, p. 487). From the sounds of things, twentieth century parents and teachers did not invent the problems associated with children and schools, and it is safe to assume that they will not completely stop them (Sprinthal and Sprinthal, 1987). How teachers have historically dealt with these "problems" that interfere with learning has changed considerably.

Two things have shaped the intervention of the teacher: (1) the concept guiding the teacher's thinking; and (2) the techniques that the teacher employs to intervene. Under the guise of "miantaining order," teachers over the years have tried a variety of techniques, most of which were concocted to inflict physical punishment on the erring student...the whipping post was not uncommon in the first school houses (Purkey, 1978). As Dewey (1944, p. 134) wryly observed, "it makes no difference what you do to a child as long as he doesn't like it." However, the lofty goals of a democratic society, to teach people to live comfortable productive lives with mutual respect, seem to run counter to the rigid concepts of unthinking conformity (Rogers, 1969; Epstein and Skinner, 1982; Duck, 1981). Horace Mann

suggested that "we cannot educate for freedom with methods of slavery" (Sprinthal and Sprinthal, 1987, p. 489).

The problems associated with maintaining order continue to persist, as conflict seems to be both inevitable and ubiquitous in a free society (Duke, 1976), as almost any classroom teacher could testify. But the good news is that cooperation and normative consensus are also inevitable and ubiquitous (Duke, 1976). The problem then is, how are the latter "inevitabilities" realized?

The "heavy handed" approach to discipline, an attempt at normative consensus, has moderated considerably (Purkey, 1978). The term itself, discipline, has been expanded and updated to the more global concept of classroom management, the most common and general label for teachers' efforts to control student behavior (Duke and Jones, 1984; Jones and Jones, 1986; Kauchak and Eggen, 1989; Duke and Meckel, 1984; Emmer and Everston, 1981). Jacob Kounin's (1970) pioneering efforts were primarily responsible for focusing attention away from discipline or isolated events to a more ecological management concern.

Kounin's contributions to the concept of classroom management came at a time when teachers were

changing how they thought about and intervened in problem situations (Kauchak and Eggen, 1989; Duke and Jones, 1984; Jones and Jones, 1986; Biehler, 1978; Sprinthal and Sprinthal, 1987). The changing nature of the situation is reflected in what teachers perceive as their most serious problems. Arsulich (1978) reviewed selected discipline literature and found that lying, disrespect and congregating in the halls were the big issues of the 1940s. In the 1950s, stealing, disrespect and personality traits were identified as major problems, whereas violent assaults, gang warfare and extortion are considered the most pressing problems of the modern educator (Arsulich, 1978).

Along with the change in problems that confront the teacher, there is a corresponding change in how he/she thinks about and consequently intervenes (Jones and Jones, 1986). Doyle (1986) characterized two models used by the classroom manager as "the clinical practitioner" and the "exemplary disciplinarian." Kauchak and Eggen (1989) found no emperical evidence to sustain the hypothesis that the "exemplary disciplinarians" (those who were good at putting out existing fires) were better managers in the classroom.

The "clinical" role emphasized the therapeutic

aspect of the teacher/student relationship. The guiding assumption being that finding the source of student behavior is key to the management of behavior (Gordon, 1974). Kauchank and Eggen (1989) suggest that this approach is too time consuming and too much of a drain on the teacher's energy to be effective.

Others have proposed various single recipes for controlling classroom behavior that ask commitment to one intervention strategy at the exclusion of others (Glasser, 1969; Gordon, 1974; Madsen and Madsen, 1981; Buckley and Walker, 1978; Epstein and Skinner, 1982). These "new ideas" were test marketed with local success; consultants were hired to spread their gospel and many were duly "converted." There are pockets of Skinnerian, Adlerian, and Glasserian successes, but nothing seems to work all the time (except the consultants). Not surprisingly, Gallup Polls continued to name discipline as the public's major concern about their schools (Charles, 1989).

With the increasing severity of classroom problems and the decreasing confidence of the public regarding the teacher's ability to deal with these concerns, researchers turned their powerful gaze toward the teacher as the primary element in successfully managed classrooms. The search for effective ways to manage behavior centered around the

characteristics of "effective" or "best" teachers (Bishop, 1981; Graham and Heimerer, 1981; Emmer and Evertson, 1981; Solomon and Kindall, 1975).

One study indicates that effective teachers set clear expectations for behavior, and are prompt in dealing with inappropriate behavior (Emmer and Evertson, 1980). In a review of the literature on effective teaching, Graham and Heimerer (1981) identified warmth, flexibility, and an ability to monitor with mild forms of non-physical intervention as some of the variables that characterize highly effective teachers. Moskowitz and Hayman (1979) studied "best" teachers in a year long investigation and concluded that "best" teachers convey acceptance and monitor inappropriate behavior better than first year teachers (Moskowitz and Hyman, 1979). The "best" teachers seemed to anticipate problems and "head them off at the pass." Karr and Kidwell (1987) investigated ineffective teachers who were judged by their students to be poor managers. A striking difference between the group of effective teachers and the ineffective teachers was the inability of the ineffective teachers to handle their own classroom problems. They tended to "send out" for solutions while their more effective colleagues made their own

solutions, handling their problems within the classroom. However, teachers, both effective and ineffective, continue to be preoccupied with classroom control and cite it as their principle cause of stress (Blase and Pajak, 1985).

Kounin's monumental work, the result of two decades of research, was primarily responsible for two major shifts in how classroom problems were conceptualized, and, ultimately, how they were fixed. First he directed the attention away from the singular notion of classroom discipline to the more global concept, classroom management. The idea of classroom management suggests the interaction of a wide range of variables that create "situations" in the classroom.

Secondly, Kounin suggested that this interplay of variables in the classroom was not entirely the fault of either the student or the teacher. Together with the entire class, teachers and students create problems and, consequently, they should solve them. His work focused on the entire classroom and specifically on the behavior of both student and teacher. He found that each does have a "ripple" effect that impacts nearby students (Doyle, 1985). Kounin suggested that good teachers seemed to have "eyes in the back of their heads" and consequently

know what is happening all over the room, a concept he called "with-it-ness" (Kounin, 1970). The good teachers also provide smooth transitions between activities to maintain consistent momentum, which Kounin contends is crucial to group management (Kounin, 1970). His work implies that good classroom managers are identified by their skill at preventing classroom discipline "fires" rather than putting them out once they are started (Kauchank and Eggen, 1989).

The concept of "teacher as manager" has appeared to spawn a wide offering of classroom management texts that promote the eclectic approach to intervention (Curwin and Mendler, 1980; Wolfgang and Glickman, 1986; Cangelosi, 1988; Chernow and Chernow, 1981; Charles, 1989). These authors all seem to agree with Wolfgang and Glickman (1986, p.4) who suggest that using "the same approach with every child would be stifling and inadequate." In short, effective teachers employ a variety of appropriate techniques at appropriate times for appropriate situations (Graham and Heimerer, 1981).

Creativity as a Variable in Classroom Management

The imposing task of an effective teacher includes juggling a variety of different tasks

that involve attending to activities across the room, evaluating a myriad of interactions and maintaining on task behavior. All toll, the teacher will make some 130 plus decisions per hour (Kauchak and Eggen, 1989). The nature of the teacher role--awareness, sensitivity, spontaneity, originality and intuition--suggests that the teacher behaves in ways characteristic of creative persons (Torrance and Meyers, 1974, 1970; Glover, 1980).

Unfortunately, creativity is not easily defined, nor is it unilaterally accepted as a significant plus in management. Definitions vary from the measured and precise words of the previously cited Torrance definition to Gordon's (1961) basic assertion that everything is relative ...making everything relative is creativity (Gordon, 1961). Creativity, as Stuller (1982) sees it, lies somewhere between logic and unconscious.

Barron and Harrington (1981) investigated creativity, personality, and intelligence of a wide range of adults and found evidence that creative people share certain characteristic personality traits; in particular, independence, intuitive thinking, higher self acceptance and increased energy level. However, McCall (1980), in an examination of creative leaders in organizations, found them crafty,

grouchy, dangerous, feisty, contrary, inconsistent and spineless. Fortunately, there is interesting evidence that creative people are certainly not "crazy!" One investigation found that personality disorders are no more likely to occur in the creative population than in the non-creative segment of society (Coleman, Butcher and Carson, 1984).

The role creativity plays in the lives of healthy, mature individuals is still unsettled, but there is emperical data that identifies creative thinking as a "major player" in the day-to-day demands of the classroom teacher (Yamamoto, 1963; Milgram and Feldman, 1979; Raina and Vats, 1979; Sadker and Sadker, 1988).

MacKinnon (1960) examined highly effective teachers and focused on individual characteristics. He suggested that two variables were important to their functioning: (1) personal soundness (emotional stability); and (2) creativity (originality of thought or action). On the other hand, a strong control orientation, which appears antithetical to creativity, seems to interfere with effective methods of conflict resolution (Tjosvold, 1980).

The seemingly natural relationship between effective management and creativity is beautifully

illustrated by Wolfgang and Glickman (1986) as they envision the teacher as a symphony conductor giving different signals to different sections of the orchestra that produce the dynamic mix of intensity and diversity of harmonious sound.

The relationship of effective classroom management and creativity is more practically illustrated by Ruch's (1984) pragmatic assertion that "creativity may be usefully defined as exceptionally able problem solving" (page 366). He suggests that the "problems" teachers have in managing the classroom could be directly related to their creative abilities. There is some reason to believe that creative teachers show a tendency to perceive and react to complex situations in the classroom more efficiently than their less creative counterparts (Yamamoto, 1963; Meadow and Parnes, 1959; Raina and Vats, 1979; Barron and Harrington, 1981; Wallach and Wing, 1969; James, 1958).

Gruber (1981) contends that creative people have a technique for putting some problems on hold while tackling others--a concept he calls "bracketing." This skill is analogous to what Kounin (1970) has called "with-it-ness." Creative people are, as Gruber (1981) suggests, "highly skilled jugglers."

With mounting evidence implying a possible

relationship between effective teaching and creativity, it is unfortunate that creativity is seemingly left to chance. As Mack (1987) pointed out, 89% of teachers said they learned about creativity somewhere other than in an undergraduate education program.

The Relationship of Creativity and Classroom Management

This investigation will assess the relationship of the unwieldly phenomenon creativity, as manifested in teachers' creative thinking, as a correlate of a specific teacher activity, the management of classroom behavior. This relationship has been established in a global sense by Grief (1961) who found emperical evidence of a significant gain in general teaching effectiveness with a corresponding gain in creative thinking.

Yamamoto (1965), in his review of the literature, reported similar findings suggesting that general measures of creativity were so significantly related to teacher activity that it could be construed as a predictor of teacher effectiveness. A later study (Milgram and Feldman, 1979) supported the relationship to the extent that the authors called for teacher

evaluation screening based on creative inventories as one criteria of selection.

Yamamoto (1963), in an investigation of the link between creative thinking abilities of nineteen elementary teachers and achievement and adjustment of their students, found no difference between high creative teachers and low creative teachers in terms of their patterns of classroom interactions and their measured adjustment. However, he measured "what" happened (how often they interacted), and concluded that the quality of the interaction (the "how") should remain in question.

An investigation (Milgram and Feldman, 1979) of creativity as a predictor of teacher effectiveness concluded that the ability of one to think creatively in a classroom situation is not related to effectiveness defined as job satisfaction; however, creative activity in and out of the classroom is highly correlated to teacher effectiveness in terms of job satisfaction.

In his review of the literature, Yamamoto (1965) points out that in the microcosm of the classroom, the teacher's attitudes, skills and talents will sharply influence the behavior of the students. The ability of the teacher to think creatively is at the very heart of the most fundamental educational objectives,

even the acquisition of the "three R's" (Torrance, 1967).

Principals seem to agree. Originality and creativity are teaching qualities highly valued by administrators and ranked high in desired teacher characteristics (Tuckman, Steber, and Hyman, 1979). Teachers who were rated most competent by their principals were rated considerably more creative on the Tuckman Teacher Feedback Form than those rated less competent (Tuckman, 1976).

Instruments

Peer Evaluation/Nomination of Competence

The evaluation of teacher performance is a difficult undertaking at best, and frought with the dangers of bias that could contaminate the result (French-Lazouick, from Millman, 1981), but one that has the potential to improve performance, personal growth and professional esteem (Duke, 1986; Beebe, 1987). It is not a question of if it should be done, but simply how. As Bunnell (1987) concludes, teacher appraisal is inadequate at present, but necessary.

Classroom control is one of the major criteria by which teachers judge the effectiveness of their peers

(Lortie, 1975), and as some have contended, teachers are best at evaluating each other (Cohen, 1979; McElrath, 1986). Consequently, this investigation utilized a peer evaluation system to nominate the top classroom managers on the faculty. As previously alluded to in the Limitations section and the opening paragraph, peer evaluation/nomination is not a perfect system to identify top classroom managers, however, it does have some support in the literature (Lortie, 1975; Cohen, 1979; McElrath, 1986).

Creativity Measurement

The measurement of creativity is difficult to obtain, primarily because it is so difficult to define. J.P. Guilford (1967, 1983) differentiated two major factors in his model of intellectual modes, divergent and convergent thinking. He theorizes that the divergent thought process is strongly related to creative thinking (Guilford, 1983). While some relate creativity to hemisphericity of the brain (Edwards, 1986; Sanders and Sanders, 1983), divergent thinking is the most widely accepted primary explanation of this elusive concept (Snyder, 1985).

Wallach (in Mussen, Ed., 1970) suggests that creativity can be assessed by measuring divergent production using the concept of ideational fluency,

however, Jenson (1980) warns that these kind of tests simply assess the capacity for generating unusual responses to questions. Jensen (1980) is also pessimistic about constructing tests of creativity that agree with one another or that predict actual creative performance in the real world.

After reviewing and classifying creativity tests, Hocevar (1979) advocated a simple inventory of creative achievement as the best measure of creativity. His reasoning is that this method is direct, observable, and validated in the literature as the best predictor of future creative behavior.

Into this nebulous area of scientific inquiry steps E. Paul Torrance, arguably the major force in the literature of creativity (Glover and Gary, 1976). Torrance's notion of creativity (defined in Chapter I of this study) differs from Guilford's even though he utilizes Guildford's individual constructs of creativity, fluency, flexibility and originality. Guilford visualized creativity as embedded in a slab in his "structure of the intellect" (Guilford, 1983); consequently, his tests are measures of divergent thinking as a part of a greater whole, i.e., the intellect. Torrance, on the other hand, tests the individual constructs of fluency, flexibility, and

originality as separate entities from the intellect (Buros, 1972).

The problems of validity and reliability of the Torrance Test of Creative Thinking will be specifically identified in Chapter 3. However, the reviewers in the Mental Measurement Yearbook suggest that the TTCT may be useful as a research tool to investigate the nature and nurture of creativity (Baird, Thorndike, Holland, Wallach, and Hoephner, in Buros, 1972).

Career Ladder Program

One aspect of the study is the follow-up evaluation of the original participants rated in classroom management skills and measured with respect to creative ability. The variable of interest in the follow-up is the teacher's achieved Career Ladder status. This program was instituted as part of Governor Alexander's Better Schools Program and was established as the Comprehensive Educational Reform Act of 1984, with the primary goal "to identify and reward outstanding teaching performance" (McElrath, 1986, p. 1).

This state-wide evaluation program, however, does not enjoy universal and wholehearted endorsement from all observers and participants. Johns (1988) surveyed

a random sample of 927 Tennessee teachers and concluded that the Career Ladder program is "at least a contributing factor to the alienation of Tennessee's teachers" (p. 18).

It is the state's contention that the most able evaluators of teaching performance are teaching peers (McElrath, 1986). Accordingly, this investigation has utilized a peer evaluation/nomination procedure to identify effective managers and has collected data under McElrath's (1986) assumption that the Career Ladder program identifies effective teaching.

Summary

Classroom management is a global concept that gathers up behaviors and interactions that conspire to keep learning and harmony alive in the classroom. It seems clear that problems in the classroom have existed for quite some time, but the severity of their impact in human terms is increasing.

The problems of management in classrooms do not occur in a vacuum, and they must be attended to as such (Curwin and Mendler, 1980). The integration of countless variables seems to demand some type of creative behavior on the part of the teacher.

Efforts to provide the classroom teacher some

assistance in this struggle have been evident in the variety of solutions proposed. One of the most promising techniques is the notion of a comprehensive eclectic approach that provides the teacher with a variety of tools to use on the management frontline (Duke and Meckel, 1984).

It is apparent that effective teachers make good decisions based on several pieces of information. In those good decisions, "what" is done is not as important as "how" it is done. As Robert Hutchins (from Young, 1960) so boldly declared, "...particular bits of knowledge are nothing because they are made up of rapidly aging facts. Principles and methods are everything" (p. 53).

Creative thinking as a definitive correlate of effective classroom management is still uncertain. Milgram and Feldman (1979) have suggested that creative activity is strongly related to teacher effectiveness, whereas Yamamoto (1963) found no significant relationship between creative teachers and better adjustment of their students. However, it is clear that how creativity is defined and measured and how effective classroom management is defined and measured are critical. The literature still warrants considerable caution in these areas.

CHAPTER III

METHODS AND PROCEDURES

Subjects

Bradley County is located in southeast Tennessee with an approximate population of 60,000 people. It is an industrial/farming community with several major factories and considerable agriculture. There are thirteen elementary schools, two junior high schools and a comprehensive high school in the Bradley County school system. With the Superintendent's assistance, all elementary schools were contacted and asked to participate in the study. Six accepted the invitation, however, one school later declined. The five elementary schools that did agree to participate represent the largest elementary school (Michigan Avenue) and the smallest (Black Fox) in the county in terms of both faculty and student populations. The total faculty at these five schools is 75. The agreement with the administrators was consumated with a "pass" option for any individual teacher not willing to participate in this "extra-curricular" activity. In the five schools, 24 teachers chose to exercise the

"pass" option, and one participant was a student teacher, consequently, her results were not included in the data. This left 50 participants who were ranked and also completed the creativity test.

When the study was initiated in 1983, the 50 subjects ranged in age from 22 to 60 and the majority of the participants were female (44). Approximately 47% had completed work toward an advanced degree beyond the Bachelor's degree. Although the data on race are incomplete (some participants elected not to complete this section), the faculties at each school were predominantly white.

Instrumentation

Creativity Measure

As a measure of creativity, the Torrance Test of Creative Thinking, Verbal Form A, was administered to all 50 participants. This instrument (TTCT) is an open-ended device that allows the participant to respond to seven situations from which a composite measure of creativity is derived. The first three items use pictures in which the examinee is asked to explain the action. Situation four requires the improvement of a given toy so that "it would be more fun to play with" (Anastasi, 1976). Activities five

and six are opportunities to list unusual uses and unusual questions for and about a given object. The last activity has the respondent project probable consequences for a given improbable situation. The entire battery yields a score in fluency, flexibility, and originality, three constructs of creativity first identified by Guilford (1962). The arithmetic average of these three subtests is presented as the total score. These specific constellations of creative abilities constitute the essence of the creative process and demand the kind of thinking analogous to that involved in recognized creative achievement (Torrance, 1967).

Ideational fluency is revealed by the subject's ability to formulate a number of cause and effect hypotheses. These responses or "guesses" must, however, be relevant. Different categories of questions regarding causes and/or consequences require the subject to shift thinking patterns, and these shifts in the process of thought yield a measure of flexibility. Originality is indicated by the statistical infrequency of a given response for cause, effect, or consequence. Originality is also scored for responses that are "mental leaps" from the more commonplace or obvious answers (Torrance, 1974).

Extensive investigation of this instrument has

yielded both useful reliability and validity data (Buros, 1972). Studies with the TTCT report reliability coefficients exceeding .70 after one week to three years in test retest cases using the equivalent forms A and B (Holland, from Buros, 1972). Holland also reviewed some fifty validity studies of the TTCT and found that concurrent and construct validity were acceptable and only slightly more troublesome than the predictive validity. Despite what he called "gross statistical deficiencies and weak designs," his review appears to present evidence that the TTCT is a valid instrument for research purposes (Holland, from Buros, 1972, p.448).

Another reviewer, Baird (from Buros, 1972) cautions against over eager interpretations of the results of the TTCT because the normative data in the manuals are based on restricted samples. Consequently, he recommends that the instrument be used as a tool to assess creative potential only.

Since the subjects give free responses to semi-structured tasks, the scoring is by hand. Consequently, due to the subjective nature of the test and the possibility of compromising test validity and reliability, the results in this study were sent to the Scholastic Testing Service, Inc. for an impartial

scoring. Intercorrelation of experienced scorers is consistently above .90 with minimal differences in the means (Torrance, 1974).

The results of the TTCT do not seem to be sensitive to variables of sex, race and socioeconomic status which have appeared inconsequential in studies conducted in different parts of the United States (Torrance, 1974). Randomization was used as a control of these variables, along with the variables of age, and years of experience, with the assumption that they were evenly distributed across the five faculties.

Classroom Management Assessment

Each of the five faculties were asked to rate the top five classroom managers on the faculty one to five with one being high (see Appendix C for rating form). Given the discrepancy in classroom management definitions, the researcher directed each faculty group to rate their peers on the basis of the following operational definition of classroom management:

> "Teacher behavior that produces high levels of student involvement, minimal amounts of student behaviors that interfere with teacher's or students' work and efficient use of instructional time..." (Emmer and

Evertson, 1981, p. 219).

These nominations were then tabulated within each school by assigning five points to the number one ranked teacher and one point to the fifth nominated teacher. A raw score of ranking by peer perception of classroom management skill was then developed for each faculty member and converted to a ratio of rank value attained to highest possible score in the respective faculty groups. This procedure allows individual faculty scores at different schools to be compared on an equivalent basis (Kiess and Bloomquist, 1985; Guilford, 1954). Only one teacher in the five participating schools was not nominated on at least one ballot. As expected, this occurred at the largest elementary school. Mischel (1972) has demonstrated the validity of similar peer nominations as a means of identifying competent teachers.

Follow-up Data

The Career Ladder Program was instituted in Tennessee to recognize and reward good teachers, therefore it seems that attainment of a higher level of status (Levels II and III) would be related to peer nominations of competency in terms of classroom management, an identified criterion. The research

assumption that creative teachers are perceived as better managers could be further substantiated or refuted by correlating measures of creative thinking with respective Career Ladder status.

To test these assumptions, a follow-up survey instrument (see Appendix E) was designed by the researcher from a model used by Johns (1988) to assess teacher attitudes of the Career Ladder program. The survey requested information on the Career Level status of the original participants, as well as basic data regarding educational and professional experiences in the five years since their original assessment. The follow-up information was then used to identify groups with respect to Career Ladder status for comparison with the variables of creative thinking scores and classroom management ratings.

Procedure

After securing permission from the Superintendent of County Schools and the five principals, the researcher met with each faculty after school. In the introductory remarks, it was made clear that participation was voluntary and any participant could exercise a "pass" option on any part of the procedure.

Next, the basic concept of the investigation was explained, a study of the relationship of teacher

creativity and perceived classroom management skills. Then teachers were given a ballot (see Appendix C) with Emmer and Evertson's (1981) operational definition of classroom management on it and requested to nominate the top five managers on the faculty with respect to the definition on the ballot.

The teachers were then told they would take a creativity test that would require approximately 45 minutes to complete. At this point, some members of the faculties exercised the "pass" option, therefore, some (24 out of 75) were ranked but did not take the test. The ranking status, high (H) management group or low (L) management group, was determined based on the information from all teachers, whether or not they completed the creativity test.

The schools were assigned letters (A-E) and the participants were numbered consecutively. This procedure was used to both protect their personal identity and allow the researcher to match scores and subjects. Hence, A2 was the second person listed on the faculty of the first school and E75 was the last person listed on the faculty roster of the fifth school.

In school A, 13 faculty were ranked and all but three took the TTCT. In school B, 20 were ranked and

16 completed the TTCT. School C, with the smallest faculty, N=8, was 100% in teachers ranked and teachers completing the TTCT. In contrast, school D, with 11 faculty, had only four to complete the TTCT. Likewise, the largest school faculty, school E (N-23), had only 11 teachers who were both ranked and completed the creativity test. Consequently, the teachers from each faculty that did not complete the TTCT were discarded from the study, leaving a total of 50 participants. These missing data tend to mitigate against a completely reliable measure of the relationship of perceived management ability and creativity.

Of those who did complete both the ranking procedure and the creativity test (N=50), some teachers appeared reluctant to "give up" their free time after school to participate in the study, and others seemed nonchalant about the test. These factors, along with fatigue and subsequent mortality, suggest that the results of the creativity test and probably the ranking procedure should be interpreted with caution.

After a five year period, a follow-up survey was mailed to the home addresses of the original 50 participants with a cover letter and a self addressed, stamped envelope (see Appendices D and E). During

this period, some teachers moved (nine), resigned (five) or retired (three). Thirty-eight percent (19) of the original participants returned the follow-up survey to provide personal data on their educational and professional status during this interim period. However, with the assistance of the Superintendent's office, the same follow-up data were obtained from personnel files on the remaining original participants who were still in the profession. Eleven of the original 50 have moved out of state and/or have no known address available to this researcher. Consequently, follow-up data are available for 39 of the original 50 participants.

Statistical Procedure

The first step in examining the combinatorial relationships of the variables of interest, creative thinking, classroom management and Career Ladder status, was to establish the TTCT as a reliable and valid predictor of creative thinking (p. 29-30). A bi-variate regression analysis of standard scores of classroom management ability was then regressed onto the creative thinking scores of the TTCT. Next, a validation of the creative thinking scores as a predictor of the construct of classroom management was

tested by a validation/hold-out sample technique. Subsequently, a regression of Career Ladder status onto creative thinking scores and the standard rating of classroom management skill was computed.

A profile of each of the variables of interest was also parcelled out to further examine the reciprocal impact of creative thinking, classroom management and Career Level status. The profiles also reflect the distribution of the background variables. The results of these various computations will be detailed in the next chapter.

CHAPTER IV

RESULTS

The data collected in this study were analyzed in accordance with the procedures outlined in the last chapter. A review of the collection procedures and score meanings of the data on the variables of creative thinking ability, classroom management skill and Career Ladder status will be followed by a detailed description of the results of the statistical procedures used to test the hypotheses outlined in Chapter I. The last section of this chapter will report the decisions on the hypotheses and will be followed by a brief summary of the results.

Creative Thinking Scores

In Chapter II, acceptable reliability and validity coefficients were presented that established the TTCT as a reliable and valid predictor of creative thinking within the parameters of this study. Since creative thinking may be expressed in an infinite variety of ways, the researcher wishes to remind the reader that this test is an indication of creative

thinking potential. However, it does render emperical data suitable for research (Buros, 1972).

The results of the TTCT are reported in three subtests--Fluency, Flexibility and Originality--each a construct of the more global term, creativity. The "Total" subtest is the arithmetic average of these three subtests and will be used primarily as the creative thinking ability score; however, the various subtests have different criteria of measurement and reflect distinctive aspects of creative thinking.

The TTCT was scored by independent raters (Scholastic Testing Service) and the raw score for each subtest was converted to a standard score with a mean of 100 and a standard deviation of 20. Consequently, the means reported in this report are standard scores.

The Fluency subtest, perhaps the most critical for the three subtests (Torrance, 1974), is a reflection of the subjects' abilities to produce a large number of ideas, and therefore, provides the basis for an evaluation of the other subtests. On this subtest, as was the case in the other two subtests, the original group's (N=50) standard score mean (76.82) was significantly ($p<.01$) below the mean (100) for college educated adults (Table IX, Appendix G) . Likewise, the means for the other subtests,

Flexibility (75.42) and Originality (79.22), were also significantly ($p<.01$) below average.

This aberration could be attributed to several possibilities. First, the teachers in this study could indeed be, as a group, significantly less creative than the norm group tested. An alternative explanation could be that the restricted available norm sample (N=127) was biased. As the reviewers in Buros (1972) suggest, this could make the interpretation of the results tentative, even in research projects such as the current study.

An analysis of variance with repeated measures was used to test the difference in the subtests for the original (N=50) group. The results, Table I, of those calculations indicate a significant difference between the subtests of the creativity test for the group ($F=3.13$, $df=49,150$, $p<.01$). A t test revealed the difference between the means of the subtests of Flexibility and Originality as significant ($p<.05$).

The difference between these subtests may be attributed to the inherent qualities of the characteristics of interest. Originality, measured by identifying and counting rare responses, is easier to quantify than the more elusive notion of

TABLE I

ANALYSIS OF VARIANCE AND t TEST OF DIFFERENCES BETWEEN SUBTESTS OF THE TTCT

	FLEXIBILITY	ORIGINALITY	TOTAL	F	DF
FLUENCY	1.04	1.67	.76	3.13**	3,147
FLEXIBILITY		2.15*	2.02*		
ORIGINALITY			1.84		

* $p < .05$
** $p < .01$
N=50

flexibility, which involves the measurement of shifts in thinking. In the group (N=50), the standard deviation of the Originality scores is at least 10 points lower than the standard deviation of the Flexibility scores, which seems to account for the variance observed in these two subtests (Table IX, Appendix G).

Torrance (1974), however, reported intercorrelations between the subtests of the TTCT ranging from .69 for Originality and Fluency to .81 between Fluency and Flexibility. He found the

correlation between the Originality and Flexibility subtests (.71) slightly stronger than the relationship between Originality and Fluency subtests. These measurements were the results of correlations calculated on the scores of 292 college undergraduates and seem to suggest that the TTCT subtest Total (the arithmetic average of the previous three subtests) can be reliably used as a summation of the generalized concept of creative thinking.

Classroom Management Ranking

As outlined in the last chapter, each faculty was asked to nominate the top five members of its group in terms of an operational definition of classroom management provided to each rater. The teachers were to rank the five top managers from one to five with one being high.

The resulting classroom management score was obtained by summing the scores for each teacher on the ballots with the top position (number one) weighted five and the fifth position one. Each teacher was then assigned a raw score based on these data, which was converted to a ratio of rank score to highest possible rank score (Kiess and Bloomquist, 1985; Guilford, 1954). The standardization permitted the teachers to be divided at the median into a high or

low management group, and provided an equivalent score with which to regress a classroom management index with the creative thinking ability scores and Career Level status (Zegers and Tenberg, 1986).

Career Level Status

The process for advancement on the Career Ladder is clearly identified by the criteria of Table VIII (Appendix F). Teachers certified before 1984 (which includes all participants in this study) do have the option of not participating. In the Tables and Figures of this report, the Levels I, II, and III identify ascending levels of status and X will represent those teachers who have chosen not to participate in the Career Ladder program. A follow-up has produced data on 39 of the original participants.

Career Ladder Program was introduced as part of the Better Schools Program of Tennessee to recognize and reward excellence in teaching. However, there appears to be a backlash against this innovative educational reward system. Johns (1988) has compiled some interesting data that seem to suggest that this program may be counterproductive.

However, this study is not concerned with the merits of the Career Ladder program, but rather with

how the original participants of the study have fared in a system specifically designed to identify excellence in the classroom, i.e. good classroom management.

Of the 39 respondents (Table II), six chose not to participate in the Career Ladder program citing "paperwork," "lack of free time," "stress associated with the procedures," "lack of administrative support," and "lack of support of discipline" as the major factors in their decisions. Twenty-seven others have completed the nominal paperwork required for Level I status. Only one original participant has completed Level II requirements and five have attained the highest rating, Level III.

Only one of the 39 respondents indicated an intention to apply for a higher Career Ladder status this school year, and one more will be appealing an evaluation decision. Based on the available information, it appears that most are either content with their level status or uninterested in pursuing a higher level due to what one teacher cites as "a lack of confidence in how the Career Ladder is evaluated."

Only two of the respondents were unsuccessful in their attempts at a higher level classification, whereas one teacher went directly from Level I to Level III.

TABLE II

BACKGROUND VARIABLES AND TTCT MEANS

VARIABLE	TYPE	N	FLU	FLEX	ORIG	TOTAL	F
SEX	F	34	77.05	76.18	79.52	77.84	
	M	5	75.16	69.83	77.01	74.00	
AGE[a]	Y	14	79.57	78.64	83.28	80.50	
	O	25	75.72	73.40	77.92	75.76	
EXPERIENCE[b]	E	25	80.48	77.56	80.64	79.64	
	N	14	70.07	71.21	78.43	73.57	
EDUCATION	BS	21	75.71	73.43	79.85	76.42	
	MS+	18	78.72	77.44	79.83	78.72	
CAREER[c]	X	6	70.83	64.83	74.17	70.17	
LEVEL	I	27	76.78	74.33	80.07	77.07	
	II	1	66.00	73.00	73.00	71.00	
	III	5	88.60	93.40	86.80	89.60	.75
MGT/RANK[d]	H	19	84.42	84.74*	85.68*	85.11*	
	L	20	69.55	65.15*	73.70*	69.45*	
ALL SUBJECTS		39	77.10	75.28	79.85	77.49	1.34
SD			23.96	27.15	16.35	21.89	

[a] Age has been artificially dichotomized with Y=under 40 years old and O=more than 40 years old.

[b] Experience has been artificially dichotomized with N=less than 15 years experience and E=more than 15 years experience

[c] Career Level X represents those teachers in the study who are not participating in the Career Ladder Program.

[d] Management rank is the peer ranking scores divided at the median to form a high (H) and low (L) group.

* $p < .05$

Creative Thinking and Classroom Management

The significance of the relationship between measures of teacher creative thinking ability and perceived skill in managing the classroom was examined in a bi-variate regression analysis of these two scores. The standardized score of the classroom management rating was the dependent variable and the total creativity score from the TTCT was the independent variable (Table III). The Pearson correlation coefficient that resulted (r=.474) indicates a strong linear relationship between these variables (t=3.278, p<.01). The squared r ($R2$=.225) suggests that 22.5% of the change in the dependent variable (classroom management rating) is directly attributable to the independent variable, creative thinking ability. The alpha level (p=.002) in the regression analysis indicated that this relationship is caused by chance in only one of 500 cases.

A generalized visual depiction of this relationship is presented in Figure 1. The linear relationship is quite evident, notwithstanding the two deviant scores (44 creativity score and 71.2% classroom management rating; and 123 creativity score with 4.0% classroom management rating).

TABLE III

BIVARIATE REGRESSION ANALYSIS OF CREATIVE THINKING, CLASSROOM MANAGEMENT RATING, AND CAREER LEVEL STATUS

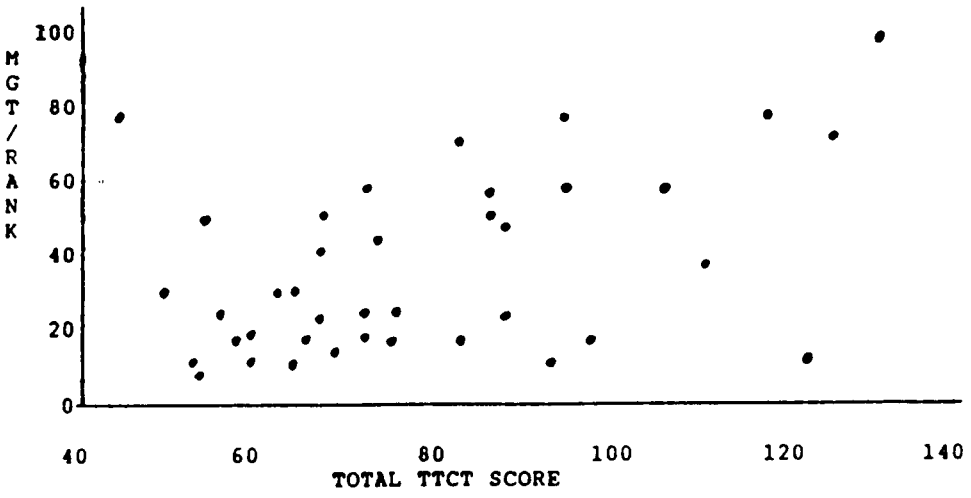
	MEANS	SD	C/R MGT RT.	CAREER LEVEL
[a] CREATIVE THINKING	77.49	21.89	r= .474* t=3.278*	r= .142 t= .873
[b] CLASSROOM MANAGEMENT RATING	22.67	24.03	r=1.00	r= .223 t=1.390
[c] CAREER LEVEL STATUS				r=1.00

[a] Creative Thinking is the subtest means of the TTCT.

[b] Classroom management is the standard score of the peer ratings of the participants (N=39).

[c] Career Level status of the participants is as follows: Level III (5); Level II (1); Level I (27); Choosing not to participate in the Career Ladder Program (X=6).

* $p < .01$



r=.474, df=37, t=3.278, p<.01

Figure 1. Scatter plot of standard rank scores of classroom management skills (MGT/RANK) and total score on the Torrance Test of Creative Thinking (N=39).

Further evidence of the relationship of creative thinking and classroom management skill is presented in the table parcelling out the high (N=19) and low (N=20) classroom managers (Table IV, Figure 2). These groups were identified by dividing the participants (N=39) at the median with respect to their standard rating scores of classroom management. A comparison of the means of the TTCT subtests reveals statistically significant differenes in Flexibility (t=-2.35, df=37, p<.05), Originality (t=-2.43, df=37, p<.05) and the Total TTCT means (t=-2.34, df=37, p<.05).

TABLE IV

PROFILE OF HIGH AND LOW RATED CLASSROOM MANAGERS

	SEX	AGE [c]	EXP [d]	EDU	CAREER LEVEL	TTCT FLUENCY	TTCT FLEXIBILITY		TTCT ORIGINALITY	TTCT TOTAL
HIGH [a] MGRS. (N=19)	F = 18	Y = 9	N = 6	MS= 11	III= 4 I=13	84.42	84.74	means	85.68	85.11
	M = 1	O = 9	E =13	BS= 8	X= 2	25.23	31.81	sd	18.11	24.43
LOW [b] MGRS. (N=20)	F = 16	Y = 5	N = 8	MS= 7	III= 1 II= 1 I=14	69.55	65.15		73.70	69.45
	M = 4	O =15	E =12	BS=13	X= 4	21.18	18.89		12.33	16.89
N=39					t =	-2.00	-2.35*		-2.43*	-2.34*
					df =	37	37		37	37

[a]High managers refer to those above the median score of peer nominations of classroom management skill.

[b]Low managers refer to those below the median score of peer nominations of classroom management skill.

[c]Age was artificially dichotomized with Y=less than 40 years old and O=40 or more years old.

[d]Experience was artificially dichotomized with N=less than 15 years of classroom experience and E=15 or more years of classroom experience.

* p less than .05

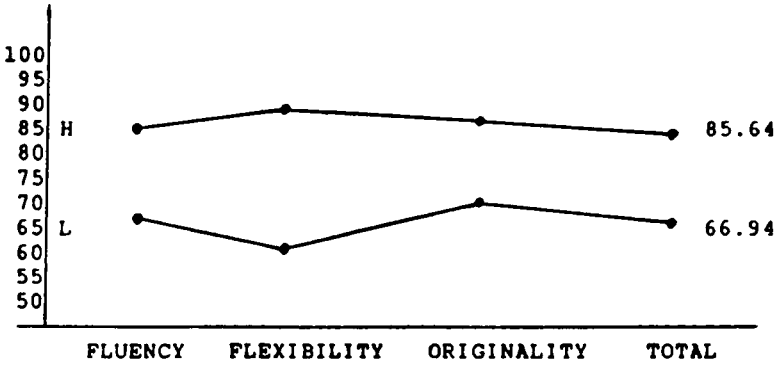


Figure 2. High (H) and Low (L) peer rated classroom managers and their performance means on the Torrance Test of Creative Thinking (N=50).

A similar procedure was used to separate the high and low creative teachers and provided an interesting comparison (Table V). The high creative teacher group (N=6) was parcelled out by total TTCT scores above one standard deviation of the group mean and the less creative teachers (N=6) by total TTCT scores more than one standard deviation below group mean. A chi square procedure was used to test the difference in each cell between the observed and expected findings, but in all cases, the results were statistically insignificant.

These results support the findings of Yamamoto (1963), Torrance (1974) and Milgram and Feldman (1979) who found that these background variables were not differentiated by creativity. There was, however, a

TABLE V

PROFILE OF HIGH AND LOW CREATIVE TEACHERS

GROUP[a]	SEX	AGE[b]	EXP[c]	EDU	LEVEL[d]	MGT. RANK[e]	CREATIVITY MEAN
HIGH CREATIVE (+1SD Above group mean) N=6	F=6	Y=2	N=1	BS=4	I=4	H=5	119.3
							8.7 SD
	M=0	O=4	E=5	MS=2	III=2	L=1	
LOW CREATIVE (+1SD Below group mean) N=6	F=6	Y=1	N=1	BS=4	I=5	H=1	52.1
							4.2 SD
	M=0	O=5	E=5	MS=2	X=1	L=5	

[a] Based on follow-up data (N=39)

[b] Age has been artificially dichotomized with Y=under 40 years old and O=more than 40 years old.

[c] Experience has been artificially dichotomized with N=less than 15 years experience and E=more than 15 years experience

[d] Career Level X represents those teachers in the study who are not participating in the Career Ladder Program.

[e] Management rank is the peer ranking scores divided at the median to form a high (H) and low (L) group.

six point difference (Table II, p. 51) between the creative thinking score in the experience variable in favor of the teachers with more than 15 years experience. As Raina and Vats (1979) had earlier suggested, experienced teachers tend to score higher on creativity inventories and tests. The difference, however, like the others alluded to above, was not significant (t=-.82, df=37).

These findings support the conclusions of Yamamoto (1963) and Milgram and Feldman (1979) who have both found it is very difficult to get a clear and integrated picture of the creative person. It is also interesting to note that the six most creative teachers have all remained in the profession, suggesting that creative teachers are not "predestined" to leave the profession.

Creative Thinking and Career Level

There are two variables in this study that purport to measure or recognize the construct of classroom management, the Career Ladder program and peer nominations of classroom management skill. In the previous section, the peer nomination procedure (classroom management standard score) was significantly related to measures of the TTCT.

Prior to regressing the Career Level data with the TTCT, a cross validation procedure (Prestholdt, Lane, and Matthews, 1987) was used to validate the TTCT as a predictor of classroom management skill as reflected by peer ratings (Table VI). This was done by taking half (validation sample) of the known relationship (creative thinking and classroom management standard rating), N=25, and completing a regression analysis. This information was then used to regress the second (hold-out sample) half (N=25).

The actual values of the standard rating were compared with predicted values in the hold-out sample. The resulting correlation coefficient (r=.511, t=2.85, p<.01) confirmed that these variables in this arrangement represent valid predictors of the construct of classroom management as perceived by peers.

Career Level status was substituted in the regression equation for classroom management, and regression analysis was computed with the TTCT, a known predictor of the classroom management construct. The results (Table III, p. 53) indicate that these two variables, Career Level status and creative thinking, are not statistically related (r=.14, t=.873, df=37, p<.05). The regression analysis reveals that creative thinking changes were only responsible for two percent

TABLE VI

CROSS VALIDATION OF TTCT

Validation Sample:[a]

DEPENDENT VARIABLE	MULTIPLE R	SQUARED MULTIPLE R
Classroom Mgt Rating[b]	.511*	.261

ADJUSTED SQ. MULTIPLE R	STANDARD ERROR OF ESTIMATE
.229	17.851

VARIABLE	COEFFICIENT	STD ERROR	T	P(2 TAIL)
Constant	-27.303	17.523	-1.558	.133
Total[c]	0.663	0.232	2.852*	.009*

Hold- Out Sample:[d]

	STANDARD RATING	Y HAT
Classroom Mgt Rating	1.000	
Y HAT	0.342	1.000

[a] First half of data on original participants removed to determine the regression equation of classroom management rating on TTCT (N=25).

[b] Classroom management rating is the peer ranking scores of classroom management skill standardized.

[c] Total represents the Total Subtest of the TTCT which is the arithmetic mean of all subtests in the TTCT.

[d] Presented as a Pearson correlation matrix

* $p = < .01$

of the changes in Career Level status (R2=.020).

A profile of the Career Levels provides a more detailed look at the individual levels (Table VII). For purposes of clarification and ease in reporting, the variables from the follow-up data have been dichotomized as much as possible. Age, experience, education and rank have been divided by the following criteria: AGE: Y=less than 40 years old; 0=40 or more years old; EXPERIENCE: N=less than 15 years experience; E=15 or more years of experience; EDUCATION: MS=Master's Degree or above; BS=Bachelor's Degree; RANK: H=rated by peers in the upper half of the faculty as classroom managers; L=rated by peers in the lower half of faculty in terms of classroom management ability.

The Career Level variable has four groups: (1) X (those not participating in the Career Ladder program); (2) I (Career Level I); (3) II (Career Level II); (4) III (Career Level III). Consequently, an ANOVA was used to examine the differences between and within these groups. This test reveals no significant differences in any of the subtests (F scores ranged from .57 to 1.06).

Level III teachers (N=5), the highest distinction in the Career Ladder program, differed from the other

TABLE VII

PROFILE OF VARIOUS CAREER LEVEL TEACHERS

LEVEL	N	SEX	AGE[a]	EXP[b]	EDU	MGT. RANK[c]	TTCT[d] FLUENCY	TTCT[d] FLEXIBILITY	TTCT[d] ORIGINALITY	TTCT[d] TOTAL
III	5	F=4 M=1	Y=2 O=3	N=2 E=3	MS=5 BS=0	H=4 L=1	88.60 32.40 sd	93.40 37.00 sd	86.80 20.87 sd	89.60 29.78 sd
II	1	F=1	O=1	E=1	MS	L=1	66.00	73.00	73.00	71.00
I	27	F=23 M=4	Y=10 O=17	N=9 E=18	MS=10 BS=17	H=16 L=11	76.78 23.22 sd	74.33 26.73 sd	80.07 16.35 sd	77.07 21.46 sd
X (not participating in Career Ladder)	6	F=6 M=0	Y=2 O=4	N=3 E=3	MS=2 BS=4	H=2 L=3	70.83 22.66 sd	64.83 18.06 sd	74.17 13.95 sd	70.17 17.87 sd

[a]Age was artificially dichotomized with Y= less than 40 years old and O=40+.

[b]Experience was artificially dichotomized with N= less than 15 years of classroom experience and E=15 + years of experience.

[c]Management rank refers to the peer perception of classroom management skill by rank and divided at the median to form a high (H) group and low (L) group.

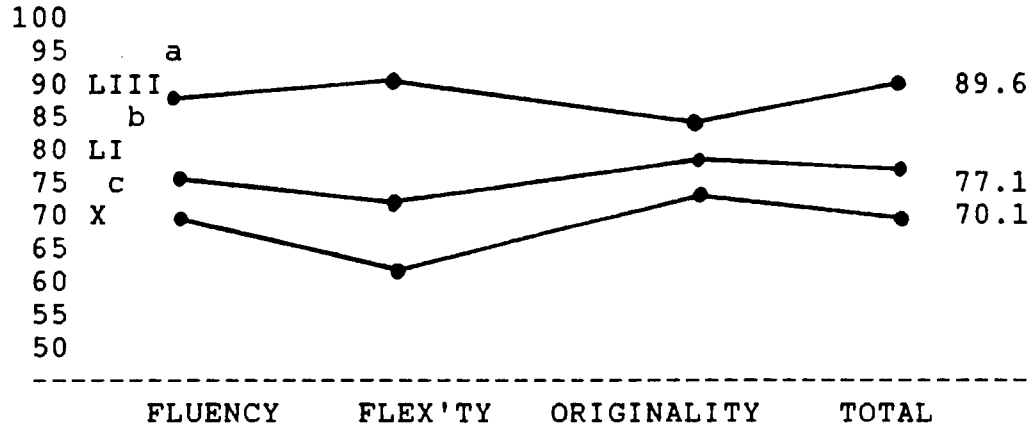
[d]There were no significant differences found at the .05 level of confidence.

groups in that all had obtained an advanced degree (Master's or better). Also, compared to the other groups, this group had the highest mean total on the TTCT (89.60), outscoring the next highest group (Level I) by 12.53. An analysis of variance on these groups revealed that the difference is not significant (F=.75).

Interestingly, most in this group (four out of five) of the Level III teachers were also ranked high in classroom management ability by their faculty peers (Table IV, p. 55). Also, this group's highest mean creativity subtest score was not Originality (86.80, as was the case with all participants, N=50, Table IX, Appendix G) but Flexibility (93.40; Figure 3).

Level II was obtained by only one of the participants and her scores, although interesting, will not be discussed for obvious statistical reasons. (The scores do, however, appear in Table VII).

Twenty-seven of the original participants have attained Level I. The variables of age, experience, education and rank for this group were statistically (chi square) insignificant. However, the creativity mean scores for Level I teachers average 12.53 points below the Level III group. As in the pattern set by the entire group (N=50), the highest subtest score is



III is the symbol for those on Career Ladder Level Three (N=5).

I is the symbol for teachers on Career Ladder Level One (N=27).

X is the symbol for those not currently on Career Ladder (N=6).

Figure 3. Various Career Ladder Level groups and their performance means on the subtest of the Torrance Test of Creative Thinking.

in Originality and the lowest in Flexibility. As pointed out above, this is exactly opposite of those Level III teachers whose highest creativity subtest score was Flexibility.

Six teachers chose not to participate in the Career Ladder Program and they too seem undifferentiated by the variables of age, experience, education and rank as classroom managers. However, their creativity mean scores fit the pattern of the

Level I teachers (highest in Originality and lowest in Flexibility), but average 6.9 points lower on the subtests than the Level I teachers and 19.43 points lower than the Level III teachers (Table VII).

Career Level and Classroom Management

The evidence presented in the previous sections suggests that these variables are not statistically related. To test that assumption, a simple regression analysis was computed with Career Level as the dependent variable and classroom management (peer rating) as the independent variable. The Pearson correlation coefficient (r=.223) was statistically insignificant as confirmed by the t test (t=1.39, df=37, p<.10). The regression analysis indicated that other predictors (besides classroom management ability) were responsible for 95 percent of the changes in Career Level status.

The profiles of both Career Levels (Table VII) and high and low Classroom Managers (Table VI, p.60) suggest a tendency for the extremes of the Career Ladder (Level III) to collect in the high management group. The same tendency is evident in the Career Level profile (Table VII) as the teachers rated high in classroom management ability appear to accumulate

in the Level III rank. These differences are, however, statistically insignificant. The only significant difference found in these two profile charts is in Table V where creative thinking significantly differentiates classroom management rating.

Summary/Hypothesis Decisions

This study has sought to answer the question of the reciprocal relationships of creative thinking, classroom management, and Career Level status.

Data from various sources were examined and the results have been detailed in this chapter. The decisions regarding the research hypotheses outlined in Chapter I are as follows.

The first null hypothesis of no relationship between creative thinking ability and perceived classroom management skill is rejected. The bi-variate regression analysis (Table III, p. 53) of the impact of creative thinking ability on classroom management rating indicates a statistically significant correlation, confirmed by the t test ($p<.05$). The statistically significant linear relationship of these two variables was established within acceptable confidence limits, and indicates the strong predictability of classroom management rating,

given the TTCT scores.

The second research hypothesis of no measurable significant relationship between the attained Career Ladder status and creative thinking fails to be rejected by the evidence. The regression analysis of these two variables (Table III, p. 53) clearly suggests that the relationship is statistically insignificant. As reported (Table VII), groups identified by Career Ladder status (Levels III, II, I and X) differed widely in the mean scores obtained on the subtests of the creativity test (TTCT). In each case (with the exception of Level II, which had only one participant), the mean scores were higher as the level increased. However, these differences did not reach statistical significance.

The evidence collected with respect to the last research hypothesis of no significant relationship between the variables of Career Ladder status and classroom management ability as perceived by peers also fails to reject the null. This finding, as well as the hypothesis decisions, will be discussed in the next chapter.

From the data, it is apparent that a relationship does exist between measures of creative thinking ability and classroom management skill. However, a

conservative acceptance of this hypothesized relationship is in order, and the interpretation of these results should be tempered with the Limitations of Chapter I in mind.

In the next chapter, suggestions for how these findings should be considered will be outlined, as well as implications and recommendations for further study and research generated by this investigation.

CHAPTER V

SUMMARY, CONCLUSIONS, DISCUSSIONS, IMPLICATIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to investigate the relationship of measures of teacher creativity with peer rankings of perceived classroom management ability and attained Career Ladder status. The 50 original subjects were elementary school teachers from five schools in southeast Tennessee. The participants were ranked according to perceived classroom management ability using a peer nomination procedure, and the scores were then standardized for inter-school comparisons. Two groups of high and low classroom managers were also formed by dividing the resulting scores at the median for each school. These participants were also administered a paper and pencil creativity test (TTCT).

Since the data were collected, the state of Tennessee has instituted a Career Ladder as part of the Better Schools Program. It is designed to identify and reward excellence in teaching by making judgements on the abilities of the participants.

Follow-up data on the original participants (N=50) were gathered with a survey instrument, and 38% (19) of the original group returned the questionnaire. However, with the assistance of the Superintendent's office, the same follow-up information was obtained from the personnel files, yielding data on an additional 20 of the original subjects. The follow-up data are then based on information obtained on 39 of the original 50 (78%) participants.

The data generated by the participants in this study indicate a significant and positive relationship (r=.474, df=37, p<.01; t=3.278, p<.01) between measures of teacher creativity and the teacher's ability to manage the classroom as perceived by peers (Table III, p. 53). This relationship suggests that a given teacher's perceived ability to manage the classroom can be predicted from scores obtained from the TTCT, a paper and pencil creative thinking test.

The state sponsored program designed to identify excellence in education, the Career Ladder program, was found not to be significantly related to measures of teacher creativity. This finding may be a function of the general teacher dissatisfaction with this program and the unwillingness of good teachers to pursue a higher level of recognition due to a variety of reasons.

A bi-variate regression analysis confirmed the significant positive relationship of teacher creativity and the teacher's ability to manage the classroom, consequently the measures of teacher creativity should also be significantly related to the variable of Career Ladder status. To test this assumption, a regression equation with the entire Career Ladder level data as the dependent variable and the total creativity score as the independent variable was computed. The resulting correlation coefficient and significance test indicate a statistically insignificant relationship between these variables (Table III, p. 53). These findings suggest that the Career Ladder program does not distinguish creative teachers nor peer perception of classroom management.

Parcelling out the follow-up respondents by Career Level status (Table VII, p. 62) did not indicate that the Career Ladder program differentiates at the extremes, Level III and X (those not participating in the program). The difference in the mean scores of the TTCT for these two groups was also statistically insignificant ($\underline{t}$=1.83, $\underline{df}$=9, $\underline{p}$<.05). The direction and amount of change in the set of scores, however, does appear to add some credence to the assumption that the Career Ladder program may

identify better teaching.

Conclusions

In light of this study, the following conclusions seem to be justified, although the generalizability of these findings must be tempered by the Assumptions and Limitations sections of this paper as outlined in Chapter I.

1. This study has established a generally significant and positive relationship of teacher measures of creative thinking and the teacher's perceived ability to manage the classroom. The cause-effect relationship of these variables is not within the scope of this investigation; however, it does appear from these data that, in general terms at least, measures of teacher creativity can predict relative peer selection as a classroom manager.

Creativity, as a concept, is very difficult to "corner." It is both prized and suspicioned as a character trait. However, none of the data reviewed and evaluated in this study suggests that creativity is a negative quality. In fact, the frantic pace of the teaching workplace seems to demand that the teacher be fluent in ideas, and able to generate a large number of ways to do things. Teachers must also be flexible, capable of rapid shifts in thinking. The

teacher must also be skilled at generating original responses that work. These are various aspects of the phenomenon "creativity" associated with peer selection as a good classroom manager as defined in this study.

2. The Career Ladder program, designed to recognize outstanding teaching, did not, however, consistently identify the most creative teachers in this study, nor was it associated with peer nomination of classroom management. This proposition is mitigated somewhat by the general confusion and disillusionment with this program, as reported by Johns (1988) and the survey respondents.

3. The background variables of age, sex, experience and education were inconsequential in predicting creativity scores for teachers or classroom management skills. The Career Level program also does not seem to differentiate between these variables with the obvious exception of education (all of the teachers in the study who attained Level II or better have advanced degrees).

4. An examination of the teacher creativity scores revealed that Originality was the highest subtest score for each group examined with the single exception of the Level III teachers. For this group, Flexibility was by far the highest subtest score, and

by comparison, the lowest for each of the other Career Level groups. Consequently, it seems reasonable to conclude that flexibility is the aspect of creative thinking most associated with Level III teachers.

Discussions

The classroom teacher is involved in a rapidly changing environment which demands constant attention to a countless number of details. So much happens so quickly that the teacher is unable to assess many of these subtle changes. Managing a classroom with 20-30 unique students creating a myriad of possible interactions demands what Kounin (1970) has labled "with-it-ness," the proverbial "eyes in the back of the head." He (Kounin, 1970) concluded that success as a classroom manager was dependent upon the ability of the teacher to monitor or guide a complex classroom system--to keep things going smoothly.

Effectiveness in the classroom would seem to require an inordinate ability to create unique and made-to-order workable solutions for the inevitable management crisis in the classroom. After a short while, it would appear that the novice, or the less resourceful teacher, would exhaust his/her supply of "pre-packaged," "ready-made" solutions. At this point, the pressure is on to make brand new answers

that pass the acid test of classroom viability. It is the inability to create new answers to resolve classroom management problems that is responsible for the majority of teacher casualties (Charles, 1989). However, it is precisely this ability, the aptitude of problem solving, that is at least one of the variables associated with excellence in teaching.

This study has examined what would appear to be an important characteristic of effective teaching, the teacher's creative thinking ability, the individual aspects of which seem, by definition, integral armaments for the successful teacher. The ability of the classroom teacher to generate a large number of novel ideas and solutions and then have the capacity to bend or change them as necessary is, at the very least, a helpful teacher attribute. The major finding of this study, a significantly positive linear relationship between measures of teacher creativity and classroom management standard scores, supports the value of creative thinking abilities for teachers.

By measuring teacher creativity and comparing these scores between groups identified by classroom management ability, evidence has been obtained that statistically differentiated between the groups with respect to their creative thinking abilities.

The follow-up data on Career Level attainment continued the general trend of high creative thinking ability associated with recognized skill as a classroom manager, especially of those teachers in the Level III group. However, this relationship appears to break down at Career Levels II, I and for those not participating in the Career Level program.

An interesting discovery in the Career Level III group (Table VII, p. 62) was their relatively high mean score on the Flexibility subtest. This group of select educators was the only group whose Flexibility means were the highest of the subtest scores. Consequently, there is a suggestion that this group is apparently less rigid than their lower rated colleagues, and would seem to possess a higher level of abstraction (Guilford, 1962). "Flexibility" appears to offer Level III teachers a broader frame of reference from which to solve classroom management problems.

Within the limitations inherent in this study and with due consideration of the assumptions, it can be concluded that creativity is a significant and valuable asset to the classroom teacher in at least one important part of the job, managing the classroom. Creative thinking also seems to be associated with individual recognition as a Level III teacher and peer

nomination as a skilled classroom manager.

A discussion of these results should be moderated by a review of the threats to the internal validity of these comparisons and ultimately the results. Although the creativity instrument (TTCT) has acceptable validity data (Buros, 1972), the results could have been influenced by personality and situational variables, specifically participant motivation. This problem (outlined in Chapter III) could have influenced the test's reliability. Likewise, the peer evaluators of classroom management could have been biased by personal feelings, inexperience or fatigue.

The inability to obtain creativity data on all members of the faculties examined could have skewed the distribution in either direction. It was assumed, however, that the teachers participating in this study were representative of their populations.

Another extraneous factor influencing interpretation of these findings is statistical regression or the effect of extreme scores on the creativity test. The range of error of measurement (148 - 42) is indicative of imperfection in the reliability of the instrument (Huck, Comier, and Bounds, 1974).

Lastly, the eleven from the original participant group on which follow-up data were unavailable could also have biased the results regarding the relationship of creativity and Career Level attainment. Additional threats of history and maturation were controlled by collecting the data for the original participants in a one day session.

It seems reasonable to conclude that the teacher's creative thinking ability does facilitate classroom management skill by generating solutions that are original, flexible and that "work," as all good artistic designs should. The skills and efforts of the classroom teacher in nurturing and developing workable relationships and successfully managing human behavior are perhaps the most important artistic ventures to date. Maybe William James (1958) was right, teaching is an art form and is enriched by a measure of creativity.

Implications

This study has produced evidence that significantly links teacher creative thinking ability and measures of effective classroom management skill. As reviewed earlier, the inability to manage the classroom has been a constant sore spot in the American educational system (Charles, 1989). Based on

the results of this study and the work of Milgram and Feldman (1979) and Grief (1961) linking teacher creativity with general teaching effectiveness, it seems fitting to explore creativity training as a viable component of pre-service and in-service teacher training. Historically, this has not been the case. As Mack (1987) has pointed out, 89% of teachers have not had such training. Whatever creative abilities that teachers may possess have been traditionally developed outside of a classroom and by chance.

Contemporary writers that offer the teacher some assistance in classroom management (Cangelosi, 1988; Chernow and Chernow, 1981; Charles, 1989; Wolfgang and Glickman, 1986; and Curwin and Mendler, 1980) suggest a "rainbow" of alternatives to "try" in discipline situations. This presents the classroom teacher with a problem of picking and choosing from a wide variety of assorted techniques, the right "tool" for the right job. The ability to appropriately integrate the classroom management suggestions of the "free-wheeling" approach of A.S. Neil with the more controlled and precise concepts of the behavior modifiers seems to require creative thinking abilities, not unlike those identifed in this study, i.e. fluency, flexibility, and originality.

Classroom management then, seems to be a process of adapting and implimenting various ideas and concepts to create solutions that work for a variety of specific situations. The ability of the teacher to think creatively appears to enhance the teacher's skill in managing the classroom.

Since Parnes (1967) and Torrance (1970) have demonstrated that creativity as a process has learnable characteristics, then maybe the major implication of this study is the development of courses that offer pre-service and in-service teachers an opportunity to develop their creativity. A boost in creative thinking could help prospective teachers make sense out of the assortment of "how to" classroom management books, theories and ideas. In short, an important implication of this study is an advocacy of a new classroom management approach that synthesizes two apparent opposites, creativity and discipline, into a "creative discipline" concept of management.

Recommendations

The heuristic nature of this study raises almost as many questions as it answers. First, there is a need to investigate in greater detail the attributes of creativity, most importantly, flexibility. This particular aspect of creativity seems to be an

important correlate of excellence in teaching, but the current investigation was not specifically focused on any individual construct of creativity.

A profile of a larger sample of Career Ladder teachers needs to be studied to isolate additional teacher characteristics clearly associated with classroom success. This information would obviously aid in pre-service selection of teachers and in-service training of current educators.

The profile of creative teachers in this study (Table V, p. 58) tends to be populated by higher Career Level (III) teachers and those rated high in classroom management skills, but not in significant numbers. This may be a function of the small sample size. Consequently, a further study of this trend with a larger sample size is also recommended.

An additional improvement on the current design would be a more reliable rating system for identifying competent classroom managers. Assuming this could be done, it would be interesting to study a larger sample of peer/principal/student nominated outstanding educators with respect to their attained state evaluated Level III status.

The characteristic of interest in this study, creativity, is so elusive and resistant to valid

measurement (and definition) that more than one measure would be recommended. This study was done with the TTCT, which measures certain aspects of creativity, but not all of the important dimensions of creative thinking and behavior. Therefore, an inventory of creative achievement or activity of the participants would have been helpful in providing a clearer picture of their creativity.

A final research suggestion generated by this study is an emperical investigation of the impact of creativity training on the teacher's ability to solve classroom management problems. Such evidence would be a more definitive summation of the role of creativity in classroom management skill. Additionally, the finding of a strong relationship would strengthen the case to be made for including creativity training at the pre-service level.

Obviously, the role of creative thinking in educational settings is not simple and clearcut. Further research and examination of this elusive quality is warranted before wholesale changes are proposed in regard to educational practices. As Yamamoto (1965) observed over twenty years ago, "the role of creative thinking abilities in social-personal effectiveness has been short in its history and too narrow in its scope" (p. 495).

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APPENDIXES

APPENDIX A

ORIGINAL LETTER TO PRINCIPALS

November 4, 1982
3256 Terrace Drive
Cleveland, TN 37311

Dear Principal,

I am writing to solicit your help in completing a research proposal for a doctoral dissertation in Educational Psychology at the University of Tennessee, Knoxville. My topic grows out of a question of the significance of the relationship between measures of teacher creativity and her/his perceived classroom management skills ("Are creative teachers better classroom managers?"). As an educator/consultant for the past twelve years, I have learned that most teacher problems are basic managerial concerns as opposed to difficulties in academic preparation. If my "hunch" is correct, the results of the study could have an important message for teacher preparation, and, if not, we will know where not to look for answers.

Briefly, I will need the entire faculty to take a creativity test (Torrance Test of Creative Thinking) that requires about 45 minutes, and is one of the few "tests" that should be fun. Later, I would need the faculty to complete a sociometric form on which they simply nominate the five top classroom managers on the faculty. The results of these two instruments will be examined and conclusions drawn about their relationship.

I plan to conduct the study in the early spring (February/March, 1983), and will need about 60 minutes of your teachers' time to complete both instruments. I will make the results available to your faculty, and would be happy to conduct a workshop on teacher creativity and discipline for your group if they are interested in a further investigation of the basics of the study.

Superintendent Walker and Ms. Guthrie have left the decision to participate with you and the faculty. I will call you in a few days to discuss your school's participation, and answer any questions you may have about the project.

Thank you for your time.

Sincerely,

Gary L. Riggins

APPENDIX B

HUMAN SUBJECT RELEASE FORM

THE UNIVERSITY OF TENNESSEE
KNOXVILLE

Office of the
Vice Provost
for Research

CRP #: 2435 A DATE: 09/13/88

TITLE: Rel.Btwn.Classroom Management Skill & Measures of Creativity

TO: Riggins, Gary L.
Ed Psy
3256 Terrance Dr.

Cleveland, TN 37311

ADV: Poppen, William A.
Ed Psy
108 CEB

Campus

I have been authorized by the Committee on Research Participation to notify you that the request for renewal with no change in protocol of your project listed above has been approved.

This approval is for a period ending one year from the date of this letter. Please make timely submission of renewal or prompt notification of project termination (see item #3 below).

Responsibilities of the investigator during the conduct of this project include the following:

1. To retain signed consent forms from subjects for at least three years following completion of the project.

2. To obtain prior approval from the Committee before instituting any changes in the project (Form D).

3. To submit a Form D at 12-month or less intervals attesting to the current status of the project (protocol is still in effect, changes have been made, project is terminated, etc.)

The Committee wishes you every success in your research endeavor.

Sincerely yours,

Thomas C. Collins

Thomas C. Collins
Vice Provost for Research

cc: Department Head
CRP File

APPENDIX C

FACULTY RATING FORM

DIRECTIONS: Please rate the top five (5) teachers on this faculty that best exemplify the following criteria of classroom managemant (rating one is high).

" TEACHER BEHAVIOR THAT PRODUCES HIGH LEVELS OF STUDENT INVOLVEMENT, MINIMAL AMOUNTS OF STUDENT BEHAVIORS THAT INTERFERE WITH TEACHER'S OR OTHER STUDENT'S WORK AND EFFICIENT USE OF INSTRUCTIONAL TIME..."

(Emmer and Evertson, 1980, p.219)

1_____

2_____

3_____

4_____

5_____

APPENDIX D

FOLLOW-UP REQUEST LETTER

1303 Davis Dr. N.W.
Cleveland, TN 37311
February 2, 1989

Dear Participant:

In the spring of 1983 you participated in a doctoral research project in which I asked you to nominate the top five classroom managers on your faculty and then take a short creativity test (Torrance Test of Creativity). Please accept a belated "THANK YOU" for your original gracious participation.

I am now conducting a follow-up study to examine the relationship between creativity and the Career Ladder Program. Obviously, I need your help. Please complete the enclosed questionnaire (whether or not you are currently in the education profession), and return it to me in the enclosed self-addressed stamped envelope by February 17, 1989. A copy of the research results will be available in the Bradley County School Office by late summer. As in the original study, your individual identities will be protected.

Also enclosed is a computer copy of what I believe to be your T.T.C.T. creativity test results (some of the names were very difficult to read). If you have any questions about these results, you may call me at home, 472-7255, or at my office, 476-3271 ext. 67. Thank you in advance for your cooperation. I look forward to hearing from you soon.

Sincerely,

Gary L. Riggins

GLR/jr
encl.

APPENDIX E

FOLLOW-UP SURVEY

FIVE YEAR FOLLOW-UP STUDY

DIRECTIONS: Check the space that best applies or complete the statement. Consider all information requested current.

SECTION I (Completed by all respondents):

1. AGE: ____25-29 ____30-39 ____40-49 ____50+
2. SEX: ____Male ____Female
3. RACE: ____Black ____White ____Other_____
4. EDUCATION (HIGHEST DEGREE EARNED):
   ____B.A.,B.S. ____M.A.,M.ED. ____ED.S. ____ED.D.,PH.D.
   Advanced degrees earned since 1983_____
5. CURRENT JOB STATUS: ARE YOU CURRENTLY IN THE EDUCATION PROFESSION?
   ____YES (Complete SECTION I and III ONLY)
   ____NO, I have taken a job outside of the education profession. (Complete SECTION I and II ONLY)
   ____RETIRED (Complete SECTION I and ITEMS 1-3 in SECTION III)

SECTION II (Completed ONLY by those who are no longer employed in the education profession):

1. CURRENT POSITION_____
2. REASON FOR LEAVING THE EDUCATION PROFESSION_____

   _____

SECTION III (Completed by those currently employed in an educational system and/or retired educators):

1. EXPERIENCE AS OF 1988-89 SCHOOL YEAR:
   ____0-5 ____6-9 ____10-14 ____15-19 ____20+
2. MAJOR WORK ASSIGNMENT:
   ____K-3 ____4-6 ____7-8 ____9-12 ____Counselor
   ____Administrator ____Other_____
3. CAREER LADDER:
   HIGHEST LEVEL ACHIEVED:
   ____Level I ____Level II ____Level III
   CAREER LEVEL FOR WHICH YOU PLAN TO APPLY IN 1988-89:
   ____Level I ____Level II ____Level III ____None
   If none, why?_____
   HAVE YOU EVER TRIED AND FAILED IN AN ATTEMPT TO ATTAIN A CAREER LADDER LEVEL? ____YES ____NO
   If YES, which level? _____
   If YES, how many times?_____

APPENDIX F

CAREER LADDER INFORMATION

TABLE VIII

TEACHERS EMPLOYED AND CERTIFICATED AS OF JULY 1, 1984

CAREER LEVEL	YEARS OF EXPERIENCE TO APPLY	CERTIFICATE LENGTH/DURATION	WHO EVALUATES?	CONTRACT DURATION	STATE SALARY SUPPLEMENT
Career Level I	3 Years	Five-Years Renewable	Local-Minimum two times in State Review - 5th year	10 Months	$1,000
Career Level II	8** Years	Five-Years Renewable	Local - 2 times in 5 years	10 Months	$2,000
			State - 2 times in 5 years	11 Month	$4,000
Career Level III	12*** Years	Five-Years Renewable	Local - 2 times in 5 years	10 Month	$3,000
			State - 2 times in 5 years	11 Months	$5,000
				12 Month	$7,000

*Teachers with fewer than three years of experience who were employed and certified on July 1, 1984 may apply for Career Level I Certification when they obtain the three year experience and other applicable requirements.

**Teachers with fewer than eight years of experience who were employed and certified on July 1, 1984 may apply for Career Level II certification when they obtain the eight year experience and other applicable requirements.

***Teachers with fewer than twelve years of experience who were employed and certified on July 1, 1984 may apply for Career Level III certification when they obtain the twelve year experience and other applicable requirements.

(From McElrath, 1986)

FUNDAMENTAL BELIEFS AND PRINCIPLES

INTRODUCTION

The Career Ladder Teacher Evaluation System is constructed upon fundamental beliefs and principles of the education profession. Below are stated the fundamental beliefs about the evaluation program, teachers, evaluators, evaluation process and procedures, and evaluation instruments.

Some of the stated fundamental beliefs and principles have been established by the Comprehensive Education Reform Act of 1984. Others are based on educational research and the experience of those instrumental in developing the evaluation system.

THE PROGRAM

1. The primary goal of the evaluation program is to identify and reward outstanding teaching performance.

2. A second important goal of the evaluation program is instructional improvement.

3. A sound evaluation program focuses on performance rather than credentials.

4. To be most useful, the evaluation program must be coupled with a strong professional development program.

THE TEACHER

1. The teacher wants to be a competent professional.

2. Instruction is the primary element in the overall role of the teacher.

3. It is possible to assess differences in teacher performance.

4. Skills needed and used by outstanding teachers do not differ from skills needed by less able teachers.

5. All teachers can improve performance.

(From McElrath, 1986)

APPENDIX G

RAW DATA BY SCHOOLS

TABLE IX

MEANS AND SIGNIFICANCE OF THE T.T.C.T. BY SCHOOLS

SCHOOL	MGT/RANK	N	FLU	FLEX	ORIG	TOTAL	F	DF
SCH A	H	5	78.20	84.20	84.60	82.40		
	L	6	59.67	59.67	68.00	62.67		
	tobs (9df)		-2.65*	-3.03*	-1.99	-2.61*		
	SCH MEAN	11	68.09	70.82	75.55	71.64	6.12*	3,30
SCH B	H	9	78.33	77.11	80.56	78.67		
	L	7	63.28	59.29	71.71	64.85		
	tobs (14df)		-1.68	-1.63	-1.57	-1.67		
	SCH MEAN	16	71.75	69.31	76.69	72.63	4.86*	3,45
SCH C	H	4	71.75	74.25	75.00	73.75		
	L	4	75.25	63.75	77.25	72.25		
	tobs (6df)		.20	-.63	.23	-.10		
	SCH MEAN	8	73.50	69.00	76.13	73.00	1.80	3.21
SCH D	H	2	86.00	76.00	86.50	83.00		
	L	3	66.00	63.33	67.67	65.67		
	tobs (3df)		1.36	1.16	2.47	1.61		
	SCH MEAN	5	74.00	68.40	75.20	72.60	2.14	3,12
SCH E	H	5	112.60	118.00	102.60	111.00		
	L	5	85.20	79.80	81.00	82.00		
	tobs (8df)		-1.64	-2.04	-1.88	-1.89		
	SCH MEAN	10	98.90	98.90	91.80	96.50	1.81	3,27
TOTAL MEANS		50	76.82	75.42	79.22	77.38	3.13*	49,150
S.D.			23.06	25.87	15.71	20.09		

* $p < .05$
** $p < .01$

RAW DATA FOR ORIGINAL PARTICIPANTS (N=50)

RECORD	SCH	CODE	SEX	AGE	EXP	EDU	LEVRNK	MGTRN	CREAT	LEVA	MGTVAL	FLU	FLEX	ORIG	TOT
1	A	1	F	Y	N	BS	I	H	H	2	52.7	94	110	113	106
2	A	3	F	Y	N	BS	I	H	M	2	40.0	94	88	84	89
3	A	4	F	O	N	BS	N	L	M	1	3.6	54	56	63	58
4	A	5	F	Y	N	MS	III	H	M	4	49.1	68	75	78	74
5	A	6	M	O	N	MS	I	L	M	2	9.1	55	52	66	58
6	A	7	F	O	E	BS	I	L	M	2	9.1	63	69	64	65
7	A	8	F	Y	N	BS	I	L	M	2	14.5	72	78	84	75
8	A	9	F	O	N	BS	I	L	M	2	7.3	69	71	84	75
9	A	11	F					L	L	0	3.6	50	48	61	53
10	A	12	F					L	M	0	7.3	61	56	60	69
11	A	13	F	Y	N	BS	N	L	M	1	1.8	69	75	74	73
12	B	14	F	O	E	MS	II	L	M	3	8.8	66	73	73	71
13	B	15	F	O	E	MS	I	L	M	2	1.3	57	48	72	59
14	B	16	F	Y	E	BS	I	H	M	2	17.5	69	73	73	72
15	B	17	F	Y	N	BS	I	L	M	2	11.3	88	88	85	87
16	B	18	F	Y	E	BS	I	H	M	2	63.8	81	83	89	84
17	B	19	M	Y	N	BS	I	L	M	2	2.5	62	56	74	64
18	B	20	F	O	E	BS	I	H	M	2	22.5	58	56	68	61
19	B	21	F	Y	E	MS	I	H	M	2	65.0	78	71	78	76
20	B	22	F					H	M	0	37.5	65	69	68	67
21	B	23	F	O	E	BS	I	L	L	2	2.5	50	42	60	51
22	B	25	F					L	M	0	10.0	101	98	95	98
23	B	26	F	O	E	MS	III	H	H	4	32.5	110	123	101	111
24	B	28	F	Y	N	MS	III	H	M	4	25.0	60	56	72	63
25	B	30	F	O	N	BS	I	L	M	2	17.5	67	63	72	67
26	B	33	F	O	E	MS	I	H	L	2	71.2	42	29	60	44
27	C	34	M	O	E	BS	I	L	M	2	15.0	99	77	90	89
28	C	35	F					H	L	0	20.0	46	40	62	49
29	C	36	F	O	E	MS	I	H	M	2	52.5	86	89	83	86
30	C	37	F	Y	N	BS	I	H	L	2	42.5	52	48	62	54
31	C	38	F					H	M	0	35.0	66	65	70	67
32	C	39	F					H	M	0	42.5	83	96	85	88
33	C	40	F	O	E	BS	I	L	L	2	15.0	52	46	65	55
34	C	41	F					L	M	0	5.0	104	92	92	96
35	D	42	F	O	E	MS	N	H	M	1	48.0	104	85	95	95
36	D	44	F					H	M	0	36.0	69	75	74	73
37	D	45	F	O	E	MS	N	L	M	1	12.0	57	52	63	57
38	D	48	M	O	E	MS	I	H	M	2	52.0	68	67	78	71
39	D	49	F	O	E	MS	I	H	M	2	44.0	72	63	66	67
40	E	53	F	O	E	BS	I	H	H	2	72.0	120	123	110	118
41	E	54	F	O	E	MS	I	H	H	2	64.0	119	148	115	127
42	E	57	F	O	E	BS	N	L	L	1	0.0	50	40	63	51
43	E	59	F	O	E	MS	I	L	M	2	12.0	97	77	79	84
44	E	61	M					L	M	0	2.0	97	96	87	93
45	E	62	F	Y	E	BS	I	L	H	2	4.0	136	119	113	123
46	E	64	M	O	E	MS	III	L	M	4	10.0	70	71	67	69
47	E	66	F	O	E	MS	III	H	H	4	90.0	135	142	116	131
48	E	68	F	O	E	MS	I	L	M	1	2.0	73	73	75	74
49	E	70	F					H	M	0	72.0	92	100	93	95
50	B	24	F	Y	N	BS	N	H	M	1	42.5	94	81	87	87

VITA

Gary Lee Riggins was born in Waynesville, Georgia on April 8, 1947. He attended the Brunswick, Georgia school system and graduated from Glynn Academy High School in 1965. In 1969 he graduated from Georgia Southern College with a Bachelor's Degree in Art Education, and after teaching school for two years, began study toward a Master's degree. This degree was awarded in 1972.

He has been employed as a professional educator for 16 years, serving as principal, counselor, human relations consultant and classroom teacher in three states and two foreign countries. These positions were held at the junior high, high school and college levels.

Mr. Riggins is married to Jovonna R. Riggins and they have two children, Zachery and Andrea.

The author is a member of Kappa Delta Pi and the A.S.C.D., and has served in various offices in both church and civic organizations.

He expects to graduate from the University of Tennessee in May, 1989 with the Doctor of Education degree with a major in Educational Psychology.