

AN INVESTIGATION OF THE DEVELOPMENT OF INDEPENDENCE  
IN YOUNG CHILDREN FROM KINDERGARTEN  
THROUGH FOURTH GRADE

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## CHAPTER I

### INTRODUCTION

#### Background of the Study

The dependence of young children upon others for instrumental help and emotional support is a necessary condition of early development. However, the resolution of dependence on such caretakers and the concomitant acquisition of independent problem-solving techniques are equally important requisites of normal personality development.

The psychosocial dimensions of the movement from dependence to independence have been described by Erikson (1963) in the first of four of his Eight Stages of Man. The outcomes of the four stages, Trust, Autonomy, Initiative, and Industry might be considered dimensions of independence. Piaget (1932) discussed the socialization process and described the evolution of sequential stages which he identified as moving from "heteronomy" to "autonomy."

Several theorists have speculated about the acquisition of other possible dimensions of independence. Neubauer (1956) believed the sources of responsibility lie first in the outside world and become slowly internalized during the first three stages of psychological growth as he describes them. Crandall, Katovsky, and Crandall (1965) believed responsibility may be developmental.

Bruner (1968) believes children come into the world equipped with a curiosity drive. He feels this drive is biologically relevant, that curiosity is necessary for survival. Harlow et al., (1971) found evidence that led them to conclude that the drive to manipulate objects and explore the world visually is fundamental and primary in monkeys and man. Berlyne (1960) has suggested that when a person is in a situation where conflicting responses are possible, a curiosity drive is generated and a person is motivated to seek further information just to satisfy that drive.

White (1959), considering behavior of this sort, directed his attention to exploratory behavior, curiosity and play. He formulates a theory for explaining these behaviors, suggesting that a feeling of "efficacy" is experienced when the individual successfully negotiates with the world of both inanimate and animate objects. He stated that man has an innate desire to make something happen in his environment--to be the cause of consequence.

In early childhood, creative thinking may be found in the manipulative, exploratory, and experimental activities of children. Creative imagination seems to reach a peak between four and four and one half years followed by a drop at about five when the child enters school for the first time (Torrance, 1963). Torrance stated,



Early in my research it came to my attention that there are drops in creative functioning at about ages 5, 9, and 13--at times when there are customarily increased socialization pressures in the dominant affluent culture in the United States.

(1975, p. 290)

Findings concerning the stages of creative development during the elementary years have been amazingly consistent. Most of the creative-thinking abilities as measured by tests show growth from the first through third grades, a sharp drop at the beginning of the fourth, a rise during the fifth and sixth, and another decline at about the beginning of the seventh grade (Torrance, 1962).

The drop in creative-thinking abilities at age five has been regarded as an inevitable developmental phenomenon in nature; however, there are now indications that this drop is man-made or culture-made rather than natural. Studies involving deliberate attempts to keep creative growth alive in fourth grade and studies of the development of creative abilities outside the United States have demonstrated that creative growth and functioning can be maintained (Torrance & Gupta, 1964).

Related phenomenon has been reported by Suchman (1964) who believed there is a decline in independence in children

after entering school. Building the basis for his Inquiry-Training program, he cited studies to support his belief that the educational system is putting great emphasis on structuring, directing, and controlling the learning process.

We are not stepping back and giving the child some autonomy, some freedom to make choices, to make decisions in programming his own learning. Essentially we are making children dependent learners.

Peck (1971) reached a similar conclusion. He stated that ". . . another honored tradition in American education identified the desirable end-product as people who are . . . in short, self-disciplined individuals" (p. 82). Following his review of literature on teaching, he opined that contemporary practice seems largely to treat the student as a passive, teacher-controlled unit in "an almost faceless mob" (p. 84). For Peck the evidence indicated that there is extremely little provision in the schools for the development of individual initiative in any way that could lead to widely self-disciplined action when the chance for individual action ultimately does arise.

Flanders (1970) in commenting that his book, Analyzing Classroom Behavior, is about nurturing independence and self-direction among learners, stated that it is almost impossible to study classroom interaction without developing

some judgments about what is going on and formulating alternatives. He wrote,

Encouraging more independence and self-direction for pupils in the classroom . . . certainly is an alternative, since it can be distinguished from the predominant interaction patterns that permeate classrooms today. (p. vii)

After reviewing several studies involving the empirical analyses of teaching, Rath (1966) agreed with Flanders that teachers tend to use direct styles in their classroom interactions with students. They do most of the talking and make most of the decisions. He speculated that it would be very difficult under such conditions of interaction for students to develop a sense of autonomy or the skills necessary for effective functioning.

While developmental theory suggests that young children are striving for independence, autonomy, initiative, and self-direction, these attributes run counter to the prevailing patterns of dependence in the classroom. Behavior in the classroom invites the interpretation that all pupils from kindergarten through graduate school possess a built-in dependence on the authority of the teacher. While all pupils are to some extent dependent on the teacher, and while the individual development of students plays a part in this, in general, teachers initiate and students respond (Flanders,

1970). The actions of the teacher can influence this characteristic of student behavior.

Independent behavior in the classroom is the tendency of the pupil to take the initiative when the opportunity exists, to be more self-directing in his work, and to be less concerned with the teacher's authority when busy on a task. Dependent behavior is the preference of the pupil to comply with the teacher's initiative, to solicit teacher direction and to be concerned about teacher reaction when working on a task.

The teacher can take the initiative in the classroom, specifying the tasks, the steps and methods of completion, the starting and stopping time, and giving permission for moving on to the next task. On the other hand, the teacher can set up learning activities that involve as much self-direction and independence as the maturity, self-control and self-directing skills of the pupils allow.

At this time little is known about the consequences of providing more opportunities for independent and self-directing learning activities in the classroom. Also little is known about the interactions between the teacher and individual students, as much of the research in interactional analysis has failed to focus on the interaction between teachers and individual students.

Peck (1971) believed that the contemporary practice which seems largely to treat students as controlled units in "an almost faceless mob" (p. 84) has even shaped the ideas and tools of most of the research aimed at correcting these faults. He found that systems for analyzing classroom interaction treated the individual teacher as one actor in the educational drama. The other actor has been the class-as-whole, a mechanical summation of the responses of totally anonymous students wiping out all individual differences. Such models for interactional analysis have valuable uses, but they are of no use for finding out what the individual student is doing, let alone how the teacher's actions are affecting him.

Brophy and Good (1974) see this as a "flaw in much of the research that has looked at naturalistic behavior in the classroom" (p. 4). They see this strategy as too general and undifferentiated to be very useful for addressing most of the questions of teacher interaction with individual students. They see the need for focus on how teachers interact with ← \* individual students, and failure to take into account individual differences can affect the interpretation of teacher measures as well as measures of student behavior.

Most teacher behaviors are directed toward individual students, although teachers do interact with single students,

groups of students, or the whole class. Given the increasing curriculum emphasis on mastery learning, individualized instruction, learning centers, modular instruction, etc., more and more teacher behavior in the elementary school will be directed toward individual students and sub-groups of students, rather than the entire class. Given this trend and that the frequency of such behaviors is likely to increase, it is much more important than ever to study this phase of classroom life in order to understand and improve current practice. Thus to interpret the meaning and implications of classroom interaction, information is needed on the extent and the importance of individual differences in teacher interaction patterns with different students in their classrooms.

#### The Problem of the Study

If the desirable end-product of American education is people who are self-directed, divergent thinkers (Torrance, 1965), self-actualized (Maslow, 1954), and self-disciplined individuals (Peck, 1971), schools and specifically teachers in the classroom should possibly direct their interactions with students toward the development of independent learning behaviors. If independence, like creativity, does decline in the early school years, and if the factors causing the decline can be identified, teaching practices may be modified so that independence in young children may be fostered.

The problem of this study is: (1) the decline of independence in children from kindergarten through fourth grade as reflected by the decline in the manifestation of independent behaviors in the classroom; and (2) the effect of teacher styles and responses in the classroom to the demonstration of independent behaviors by children identified as highly independent.

#### The Purpose of the Study

The purpose of this study was to investigate the decline of independence in children, kindergarten through fourth grade, by observing those children who were identified as highly independent children, studying the effect of teacher-student interaction on the demonstration of independent behavior by those children in the classroom, and describing the nature of responses of the teachers to those independent behaviors.

#### Definition of Terms

For the purpose of this study the following definition applied:

Independence - free from the influence, control, or determination of another or others, specifically relying only on oneself or one's own abilities, judgment, etc., self-reliant, self-confident (Webster, 1973).

### Research Questions

To carry out the purpose of this study, the following questions were formulated:

1. Is there a decline in independence in young children from kindergarten through fourth grade as measured by the California Test of Personality?
2. Is there a decline in the manifestation of independent behavior by children identified as highly independent, kindergarten through fourth grade, as observed in the classroom?
3. Under what conditions of teacher-student interaction do children identified as highly independent manifest independent behaviors in the classroom?
4. Do teacher responses to independent behaviors relate to the manifestation of independent behavior in the classroom?

### Procedures

#### Sample

All children in regular classrooms in grades kindergarten through fourth grade in a Dallas County school district were tested using the California Test of Personality during the first month of school, Fall, 1977. A total of 270 children were tested. Thirty children, six from each grade level, scoring highest on the subscores for self-reliance,



sense of personal freedom, and withdrawing tendencies (freedom from) were identified as highly independent children for classroom observation.

#### Method for Data Collection

The highly independent children and their teachers were observed for three thirty-minute sessions after the second month in school. Observations were made to note the quantity and quality of independent behaviors demonstrated by those children, to analyze teacher-student interaction when independent behavior occurred, to describe the teacher responses to independent behavior, and to analyze overall teaching style.

Observations were made by means of video-tape recording. Audio tapes ran concurrently to assure that all verbal interaction was recorded. Additionally, an observer kept a log of each child's behavior, making entries at no less than five minute intervals. Practice taping sessions were conducted in each classroom prior to observation for data collection to accustom the technician, teachers and students to the taping situation.

#### Analysis of Data

A two-way (sex x grade) analysis of variance (ANOVA) was performed on the students' subscores and the total of subscores on three subtests of the California Test of

Personality (CTP). For each analysis that was significant at the .05 level pre-planned post-hoc contrasts were performed between each grade level.

The Flanders System for Interaction Analysis (Flanders, 1970) was used to analyze teaching style, to note the quantity and quality of independent behaviors demonstrated by the children, and to analyze teacher-student interaction that occurred around the identified independent behavior. The Scale for Measurement of Interpersonal Processes (Aspy, Roebuck, Willson, & Adams, 1974) was used to describe teacher responses to independent behavior. Three trained raters rated the tapes. The means of the ratings were used to compute the following percentage from the results of the FSIA: teacher-talk and student-talk; teacher-talk direct and teacher-talk indirect; and student response and student initiation. Means of the raw scores for the Measurement of Interpersonal Processes were computed. Behaviors that could not be analyzed by the above procedures were described.

#### Limitations of the Study

This investigation was conducted and the results interpreted within the following limitations:

1. The study was limited to a group of students enrolled in a single elementary school.

2. The selection of the subjects was limited by the use of one measure of independence.

3. The collection of the data was limited to three thirty-minute observation sessions within a six-weeks period.

4. Observation was limited to behavior that could be recorded by one T. V. camera and one observer keeping a log.

5. Analysis of data was limited to use of one instrument for interaction analysis and one instrument for teacher responses to independent behaviors.

#### Assumptions of the Study

This investigation was based on the following assumptions:

1. The California Test of Personality would adequately reveal a student's perception of his independence.

2. Students who perceive themselves as highly independent would demonstrate independent behavior in the classroom that could be observed and analyzed.

3. Three observation sessions of at least thirty minutes each would reveal typical classroom behavior on the part of teachers and children.

4. Through the experience of practice sessions, teachers and students would become accustomed to the observation methods and would approximate "normal" classroom behavior.

5. The instruments used for interaction analysis would adequately describe the quantity and quality of the behaviors observed.

6. The use of video tape recording would be a reliable method of collecting data, as it would objectively record overt behavior, preserve the data for review and reflection, and thus increase inter-rater reliability.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

This study was designed to investigate the decline in independent behavior in school of young children from kindergarten through fourth grade. Children who were identified as highly independent by scores on three subtests of the California Test of Personality were observed for three thirty-minute sessions to note their independent behavior. When independent behavior occurred, teacher-pupil interaction was observed, as well as teacher responses to independent behavior.

The following review of literature focuses on theories of the development of independence and dimensions of independence, and research related to the effects of teacher behavior on pupil response.

#### The Development of Independence

The psychosocial dimensions of the movement from dependence to independence have been described by Erikson (1963) in the first of four of the Eight Stages of Man that describe development from birth to puberty. The positive outcome of the first stage, Trust versus Mistrust, is a firmly developed and convincingly continued stage of early trust.

The second stage, Autonomy versus Shame, becomes decisive for the ratio between love and hate, between cooperation and willfulness, and between the freedom of self-expression and its suppression. From a sense of self-control without loss of self-esteem comes a lasting sense of autonomy and pride.

Out of the third stage, Initiative versus Guilt, the child must emerge with a sense of unbroken initiative as a basis for a high and yet realistic sense of ambition and independence. At no other time is the individual more ready to learn quickly and avidly, to become big in the sense of sharing obligation, to be interested in discipline and performance rather than power in the sense of making things, than during this period of his development. This stage sets the direction toward the possible and the tangible which permits the dreams of early childhood to be attached to the goals of an active adult life. Thus the inner stage is all set for the "entrance into life" (Erikson, 1963, p. 258).

In the next stage, Industry versus Inferiority, the child learns to win recognition by producing things. While all children at times need to be left alone for solitary play and need hours and days of make-believe and games, sooner or later, they become dissatisfied and disgruntled without a sense of being useful, without a sense of being able to make things work and make them work well or perfectly.

He can become an eager and absorbed unit of a productive situation. To bring a productive situation to completion is an aim which gradually supersedes the whims and wishes of play. His ego boundaries include his skills and tools: the work principle teaches him the pleasure of work completion by steady attention and persevering diligence. With the establishment of a good initial relationship to the world of skills and tools, and with the advent of puberty, childhood proper comes to an end.

Piaget (1932), in discussing the socialization process of the child, described the evolution of sequential stages which he identified as moving from "heteronomy" to "autonomy." The following summary provides a delineation of behavioral and attitudinal components characteristic of heteronomy and autonomy.

<u>Heteronomy</u>	<u>Autonomy</u>
egocentrism	cooperation
unilateral respect	mutual respect
conformity	individual creativity
rigidity	flexibility
blind faith in authority	rational criticism
other directed	inner directed
dependence	independence

Closely related to independence is the development of responsibility, the ability to distinguish between right

and wrong and to think and act rationally, and hence be accountable for one's behavior. Neubauer (1956) stated that in the first few years of life children are not expected to be responsible; parents are held responsible for the child. The sources of responsibility lie first in the outside world and become slowly internalized. There are several stages in this process.

First the child must learn to delay gratification, for total gratification interferes with social development. The adult gives or withholds gratification in such a way that the child learns to give as well as take, to deny himself for the sake of others, to share and to give. Between two and four the child learns to take care of himself which precedes the ability to take care of others. The child's ability to control his motions, to speak, to express his wishes, to keep clean all lead to the ability to control himself. At this point internal and external factors become interlocked.

Between the ages of four and six years the development of responsibility takes on more social meaning. The child must achieve his social and sexual identity before steps toward social integration are possible. He finds identity within the family, and he is ready to accept his place in the larger community. In the school years the important external factors are his teachers, his peers, and social institutions. For children to continue the



development of responsibility, "it is not enough to say that a child should take responsibility, . . . we must find ways to give responsibility" (Neubauer, 1956, p. 33).

Studying early childhood behavior led Beller (1955) to develop a concept of independence, linked to achievement striving. Such behaviors as the infant taking initiative in exploring the environment, encountering obstacles, and persisting in his activity until a certain goal has been reached represent autonomous achievement striving. Continued successful experiences result in a composite trait which includes taking initiative, persisting, and completing activities. He believed that autonomous achievement striving may be positively correlated with self-esteem.

The manipulative, exploratory, and experimental activities of young children are evidences of creative thinking in early childhood (Torrance, 1963). Early in his research Torrance was concerned with the role of socialization in creative functioning and development. He stated,

. . . it came to my attention that there are disturbing drops in creative functioning at about ages 5, 9, and 13. . . . Most people argued that socialization training is necessary and there are no better times for intensifying socialization training than at ages 5, 9, and 13.

(Torrance, 1975)

Torrance first studied the decline in creativity that occurred at about age nine when the child enters the fourth grade. Observing this development in other cultures (1962), he concluded that drops in creative functioning occurred in almost all cultures when and where there were increased socialization pressures and sharp discontinuities. With an associate (Torrance & Gupta, 1964), he developed programmed materials to facilitate creative growth in the fourth grade. Drawing samples from fourth-grade classes in suburban schools in Minnesota and South Dakota and rural schools in Georgia, the materials were field tested. In all three geographical settings, the experimental groups significantly outscored the control groups in creative growth and functioning. The experimental groups in South Dakota and Minnesota also learned academically as much as the controls in reading and in arithmetic as measured by standardized tests. In the Georgia sample, the experimental group outscored the controls on all academic measures on standardized achievement tests.

In 1966, Torrance began to focus on the preschool years and the socialization pressures of five-year olds (1970). He experimented with materials and procedures to improve the quality of both the socialization and creative skills in pre-primary education. The results obtained at the end of the first year showed that children participating in the program made gains in originality of thinking on

post-tests of creativity, both verbal and nonverbal. The mean originality score for the five-year-old children was 1.1 standard deviations above the mean of the fifth-grade norm group. On the subtest, elaboration, performance of the five-year olds was one standard deviation below fifth grade. However, these subjects' socialization skills did not equal those of children in a traditional kindergarten.

Subsequently, Torrance began experimenting with materials and procedures that would increase socialization while focusing on the ability to elaborate without causing a reduction in originality. His emphasis was to refine certain aspects of the model to influence interaction processes. At the end of the second year, scores on originality, fluency, and flexibility were at the same level. The same was true for the third year with the addition that scores on elaboration were 1.36 standard deviations above that attained at the end of the first year. Similarly, studies of group functioning showed a higher level of organizing and cooperating behavior than was found during the second year.

For Torrance the evidence seems compelling that creative activities facilitate socialization and that healthy socialization facilitates creative functioning. The relationship between some aspects of creativity and independence was of interest to Barron. He found independence to be positively

correlated with two dimensions of creativity, preference for complexity (1953a) and originality (1953b).

Among studies of the interconnectedness of emotional and intellectual functioning, Kagan, Sontag, Baker and Nelson (1958) found emotional independence from peers and teachers, the ability to operate freely and constructively in the preschool setting, assertiveness, interest, and curiosity all to be predictive of subsequent IQ gains.

Kohn and Rosman (1972) in a longitudinal study with 323 preschool children confirmed their hypothesis that children who scored high on measures of Interest-Participation during the nursery years would maintain their momentum and continue to achieve in early grades of elementary school. The positive correlations between measures of Interest-Participation and measures of intellectual achievement remained constant in the follow-up conducted at the end of second grade.

They concluded that the child who is curious, alert, and assertive will learn more from the environment. They believed that the dimension of Interest-Participation reflects not only a child's outer behavior, but also his inner behavior. This inner behavior includes processes as initiative, intentions, hypothesis formation and hypothesis testing. For them the data also suggested that the relationship between Interest-Participation and intellectual

functioning predates the child's entry into formal schooling. Kohn and Rosman suggested that this relationship has its beginnings early in the child's development, probably during the first three years of life.

Dreger (1968) reached similar conclusions for older children. He found that in older children, independence, aggressiveness, self-initiation, problem-solving attitudes, anticipation, and competitiveness characterize those who gain IQ versus those who lose IQ. In high school pupils, self-discipline, social sensitivity, a constructive outlook and independence predict, along with talent, good achievement.

Suchman (1964) believed that there is a decline in independence in children after entering school. He cited several studies to support his belief. One study showed that as children moved from first through sixth grade, they become less and less empirical in the basis on which they formed and tested hypotheses as opposed to the sixth graders who tended to drift in the direction of looking to authority for the basis of their hypothesis raising and testing. "If the teacher says something is so, if a book says something is so, then this is the basis upon which they accept something." There appeared to be a gradual but clear shift in the basis upon which hypotheses were formed and the shift was away from being empirical. Suchman believed that the handling of data, and the doing something with data is what frees the

individual from being a dependent learner. It means the child is free to learn on his own; he does not have to be "led by the nose" or to be programmed by somebody else to the point of new learning.

Suchman cited another school study in which all grade levels, kindergarten through 12th grade, were surveyed. Ninety-seven percent of all questions in the classroom were asked by the teacher. He observed that question-asking seemed to be reserved for the person checking on knowledge, not by people who ought to be seeking it.

The role of question-asking in the classroom was the concern of Susskind in a study he conducted (1969a). He examined the questioning patterns of 32 teachers third through sixth grade. He anticipated that the student's rate in initiation of questions and responses would be influenced by teacher's questions. His data showed that teachers asked questions at a markedly high rate, and that the questions were of low order (this aspect of his study contrasted objective memory questions with questions encouraging students to think and draw from their personal experiences). By contrast students rarely asked questions.

Reporting on another study, Susskind (1969b) observed that it is not that students do not talk at all, but that less than one tenth of what they say is question-asking. He believed the negative correlation he found between teacher

questioning and student questioning was due to a particular pattern of teacher question-asking. This pattern involved a high rate of teacher questioning that permitted no time for discussion or reflection. This pattern included questions that were predominantly factual, right or wrong, convergent, and relied on memory and the parroting back of the text. He stated that in this atmosphere a student may feel that, ". . . his role is to assimilate material chosen and presented by the teacher, and to demonstrate that assimilation by being prepared with the right answer when he is called on" (p. 147). Susskind speculated that students tend to accept this passive reactive role.

Similar conclusions were reached by Flanders (1970) as a result of his studies of classroom interaction. He found that teachers initiate and students respond. Encouragement of more independence and self-direction is the opposite of what is going on in classrooms today. When a pupil does what he is asked to do, such as open a book or close a door on request, this is an act of compliance. There is a great deal of conditioning along these lines in the life experience of young people, starting with parents and continuing with teachers. Compliant behavior is considered highly desirable by most adults since compliance with the laws of society and conformity to social custom are considered necessary. However, this pattern of growth presents difficulties for the

teacher who would like pupils to respond to objective requirements in creative and independent ways (Flanders, 1970, p. 288).

Rogers (1969) believed that all teachers and educators prefer to facilitate experiential and meaningful type of learning. Yet in the vast majority of schools teachers are locked into a traditional and conventional approach which makes significant learning improbable if not impossible. Such elements as prescribed curriculum, similar assignments for all students, lecturing as almost the only mode of instruction, standard tests by which all students are externally evaluated almost guarantees that meaningful learning will be at a minimum.

The traditional method of encouraging pupil initiative in thinking centers on individual projects, homework, seat-work, laboratory experiments, creative writing, and similar activities. Thoughtless preparation for such activities can result in "suppressing initiative and limiting the experience to following directions, completing highly structured assignments, and simply doing what the directions say to do" (Flanders, 1970, p. 304).

Another method, independent study, is frequently mentioned in the literature as a method of instruction which recognizes and provides for individual differences. Dittman (1976) stated that independent study has come to be defined



as independent of classes, independent of other students, and independent of teachers. This interpretation does not focus on individual independence, initiative, and responsibility as the valued end of independent study.

Dittman found the same problem with individualized instruction which involved processes of diagnostic pretesting and self-pacing and focused on the process of instruction. She argued that problem developers have failed to distinguish between these processes (independent study and individualized instruction) as learning experiences and as a capability to be developed.

### Summary

Several theories of child development have been presented, indicating that in the normal course of development, a child moves from dependence to independence, acquiring the various dimensions of independence. Some theorists argue that independence, like creativity, declines when a child enters school and that this decline is the result of what happens to him in school.

### Effects of Teacher Behavior on Student Response

Students perform differently from one another in the classroom. Some show consistent improvement in school; others fall further and further behind the longer they remain

in school. For those who are not improving, the decline in academic performance is frequently meshed by a growing sense of personal inadequacy and an increasing apathy or hostility toward an environment that mostly frustrates. Brophy and Good (1974) believed that most of this differential performance can be explained by biological factors, the child's development, and the home environment; however, some can be explained by what happens to students in school, especially the treatment they receive from teachers. Different classrooms present different psychological environments for the children and the teacher is an important part of that environment.

A continuing controversy over the hypothesis that teacher expectations for student achievement can function as self-fulfilling prophecies has emerged since the publication of Rosenthal's and Jacobson's (1968) Pygmalion in the Classroom. Since that time over 60 studies have accumulated which bear directly on the question of teacher expectancy effects. After reviewing a variety of these studies, Brophy and Good (1974) concluded that the controversial findings of the Rosenthal and Jacobson study have yet to be replicated unambiguously. No other investigators have succeeded in showing significant expectancy effects on achievement or IQ scores when expectations were induced through experimental manipulation and when the experiment spanned the entire

school year. They also believed, however, that it would be inappropriate to dismiss the Pygmalion findings because of the replication failures, especially since many other studies by many different investigators have unequivocally established the reality of expectation effects even though the original Pygmalion findings remain unreplicated.

Brophy and Good (1974) chose not to replicate the Rosenthal and Jacobson findings. Instead they conducted a series of studies, together and with others, using teachers' own naturalistically formed expectations rather than experimentally induced expectations. These studies are discussed in their book, Teacher-student relationships - causes and consequences (1974). From their own research, they concluded that teacher individual differences notwithstanding, teacher expectation effects are "a fact, not a fluke" (p. 116). They suggested that teacher expectations have the potential for affecting student achievement both directly, by affecting the amount that a student learns, and indirectly, by influencing his motivation to learn.

From their observation of student-teacher interaction, Brophy and Good (1974) discovered that students in the same classroom have different interaction patterns with the teacher. In the same book, they reviewed studies of group and individual differences which are known to affect teachers. From the results of 19 studies, they concluded

that teachers tend to prefer students from higher-class homes, to over-estimate their ability relative to the ability of students from lower-class homes, and to have more positive and facilitative patterns of interaction with them. Similar conclusions were found for student race, where several studies indicated teacher discrimination against black students, and, more generally, against minority groups in integrated situations. From a review of 12 studies they reported that the sex of a student has been found to be an important factor in determining group interaction.

Student individual differences have also been found to influence teachers (Brophy & Good, 1974). High achievers, students with personalities that appeal to teachers, and students who are physically attractive, compared to their opposites, tend to be the objects of higher teacher expectations and more positive teacher attitudes, as well as more frequent and more appropriate classroom interaction.

The following studies provide information on the kind of students that attract or repel teachers. Feshbach and Beigal (1968) conducted a study on the relationship between self-perceptions of two groups of student teachers and their conception of the ideal child in the classroom. A semantic differential consisting of three concepts, myself, my ideal self and ideal child was constructed. The data indicated that the student teachers' self-evaluation contributed to

their perceptions of the ideal child. Their ratings of themselves and the ideal child tended to be on the inhibited, conforming side of the scales.

In 1969, Feshbach conducted a study in which 240 female student teachers were presented with 16 story situations depicting boys and girls manifesting four different personality clusters. The findings indicated that the student teachers rated significantly more positive on a number of intellectual and social dimensions, the conforming, rigid, and the dependent, passive child as compared to the flexible, non-conforming and the independent, assertive child.

Brophy and Good (1974) reported a 1970 study by Feshbach and Beigel that replicated the 1969 Feshbach study with three different groups of students: group of student teachers, group of psychology majors, group of Teacher Corps interns whose training stress tolerance for divergent attitudes and cultural mores. The original findings were replicated only for the student teachers.

Good and Grouws (1972) replicated the findings of the 1969 Feshbach findings on a sample of student teachers that included males as well as females. The males showed the same preference patterns as females, indicating that teacher preference is a result of the role expectations held by adults in today's society for teachers and students rather than from the sex of the respondents as such.

A study by Helton (1972) combined Feshbach's methodology with measurements of the attitudes of attachment, rejection, indifference and concern. Fifty-three third and fourth grade inservice teachers responded to Feshbach's sixteen paragraphs (adapted to assure that half were males and half were females) and then rated each "student" on a six-point scale for each of the attitudes. Passive, dependent, rigid, conforming, and orderly students of both sexes received high attachment ratings and low rejection ratings. Flexible, nonconforming, and untidy students were rated lower, especially if they were boys. Active, independent, assertive students were also rated lower, especially if they were girls.

Somewhat different methods were used by Levitin and Chananie (1972) to reach similar conclusions. Forty female elementary school teachers were asked to react to descriptions of fictional students, half were portrayed as aggressive and half as dependent. In general, dependent students were preferred to aggressive ones. Sex of students was a factor. Aggressiveness was less rejected in boys than in girls, and it was judged to be typical of boys. Dependency was judged to be typical of girls. While teachers preferred dependent to aggressive children, there was a tendency to be relatively more favorable and less rejecting toward students who were portrayed as typically sex-typed than students who

were portrayed as behaving atypically or inappropriately for their sex.

Williams and Pellegrino (1975) examined the interruptions of eight role groups of third grade students when responding to or initiating talk with teachers. Attention was also given to interrupting classmates. Data were collected from ten classrooms with 245 heterogeneously grouped children using the Feshbach Situation Test and Flanders System of Interaction Analysis. Results showed teachers and students used interruption differently with children who were active independent, and assertive. Males who were perceived by their teachers as active, independent, and assertive were interrupted by both teachers and classmates during both response and initiation significantly more than chance. Females who were perceived as flexible, non-conforming and untidy were interrupted by teachers and classmates when responding significantly more than chance.

The data showed that teachers tend to prefer compliant and cooperative students and to reject assertive and active children. Because of the nature of sex roles as defined in today's society, this also meant that teachers prefer girls over boys, although the study by Good and Grouws revealed that this is a function of the teacher role rather than the teacher's sex. Male teachers showed the same preference as female teachers. The study discussed above

that included psychology students and Teacher Corps interns shows that this is unique for teachers and may not be common to American adults generally. Brophy and Good (1974) concluded that students' individual differences in personality characteristics will affect the teacher for better or for worse, and that the attitude a teacher forms toward a student may affect how he treats him in a classroom and how he grades his performance.

In addition to teacher expectations and teacher attitudes toward students, specific teaching behaviors effect student outcomes. In a review of more than 50 studies in which some measure of teacher behavior was related to one or more measures of student achievement, Rosenshine (1971) cited 11 of the strongest variables contained in this research. The five variables which showed the strongest relationships with measures of student achievement were: clarity, variability, enthusiasm, task orientation and/or businesslike behavior, and student opportunity to learn. The six less strong variables were: use of student ideas and/or teacher indirectness, use of criticism, use of structuring comments, use of multiple levels of discourse, probing, and perceived difficulty of the course. The relationships were positive for ten of the variables and negative for the use of criticism.



Roebuck (1976), in reporting the results of research conducted by the National Consortium for Humanizing Education, stated that when teachers were trained in interpersonal (humanistic) skills their students in grades kindergarten through 12 missed fewer days during the school year, increased their scores on self-concept measures, made greater gains on academic achievement measures, presented fewer discipline problems, committed fewer acts of vandalism to the school, and increased their IQ test scores (grades kindergarten through five). The benefits to the students were cumulative: the more years in succession that students had a high functioning teacher the greater the gains as compared to students of low functioning teachers (high functioning refers to above-average use of interpersonal processes and low functioning refers to below-average use of interpersonal processes). Furthermore, creativity gains from September to May of students were significantly related to the teachers' level of interpersonal skills.

Weber (1967) collected observational data about teacher-pupil interaction during the third and fourth grade of 180 pupils in six schools. During the four-year experience, the pupils were grouped heterogeneously and were exposed to very similar curricular programs, academic materials and facilities. Based on interactional data, the teaching behaviors the children had experienced were classified as

direct or indirect. The children's score on the Torrance Tests of Creative Thinking were compared with the teaching conditions. As evidenced by higher verbal creativity scores, the verbal creative potentialities of pupils were fostered more under the influence of indirect patterns of teaching behavior.

The factors influencing the level of independence in the classroom was the subject of a study by Filson in 1957. He created two treatment situations which contrasted direct teaching with indirect teaching when the task required of students was rather ambiguous. The students were asked to make judgments about short selections of music. After an initial attempt, criteria for making judgments were given. In one group, the pupils were told in a directive way how to apply the criteria. In the other group, the criteria was presented in an indirect pattern of teaching behavior. In subsequent judgments the pupils could ask or not ask for assistance from the teacher. The frequency of requests for assistance (a measure of dependence on the teacher) was significantly higher for the pupils taught in the directive treatment group compared to the indirect group.

Amidon and Flanders (1961) conducted an experiment with dependent-prone eighth grade students who were exposed to consistently direct versus indirect teaching styles while learning geometry. One hundred and forty students were

selected on the basis of a high score on a test for dependency proneness. They were randomly assigned to one of four treatments: direct teacher influence with clear goals, direct teacher influence with unclear goals, indirect teacher influence with clear goals, and indirect teacher influence with unclear goals. Students were then compared on pre- and post-achievement tests in geometry. No differences were found between clear and unclear goals. An analysis of the direct and indirect treatments indicated that the children taught by the indirect teacher scored significantly higher than the children taught by the direct teacher.

In a study of 40 preschoolers, Moore and Bulbulian (1976) found that an atmosphere of adult acceptance and supportiveness of the child had a facilitative effect on curiosity and exploratory behavior as compared with adult criticism. They found that children in the presence of aloof, critical adults were less likely to display task-related curiosity and exploratory behaviors, had longer latencies before beginning to explore, and were less inclined to venture guesses as to the identity of objects than the children in the presence of a friendly, supportive adult.

One way to describe the teacher is to say that the teacher strives to change response patterns from mere compliance to more appropriate independent action which is determined by the pupil's own analysis of the problem he

confronts. Skillful teaching helps pupils to learn to accept responsibility for their own actions. The goals are to have pupils learn to identify problems rather than have them "given" to them; to analyze a problem and plan a tentative course of action rather than to follow a "recipe"; to carry out a plan with some feeling of responsibility rather than to follow directions from the teacher or from the book; and, then to consider the results with some degree of personal judgment rather than to look to the teacher to see if his work is satisfactory (Flanders, 1970, p. 288).

Two studies are cited where teachers' responses to dependent behavior and the student's reaction to that response were investigated. In one, the responses of teachers to pupils' dependent behavior and the reactions of the pupils to those responses were studied by Acheson (1969). Thirty-four Head Start children were observed by six observers, noting the type of dependency, instrumental or emotional, style of teacher response, and pupil reaction to that response. Instrumental dependency was followed by positive responses significantly more than by other-than-positive responses. Pupils tended to proceed to task-oriented reactions following positive teacher responses. Children receiving other-than-positive responses tended to persist in dependency. Children initiating the interaction with

emotional dependency tended to continue their dependency regardless of the response.

Kampwirth (1968) conducted an experiment to study the effects of varying teacher response to dependency behavior on the persistence of the behavior. The students were kindergarten children who were observed for a six-week experimental period following the collection of baseline data. There were three experimental groups and a contrast group. Kampwirth found in Group I: Extinction, that when the teacher ignored dependency behavior, there was a marked decrease in dependency for both sexes. In Group II: Nurturant, that when the teacher responded positively and acceptingly, there was a marked increase for boys in dependency with the opposite true for girls. In Group III: Replacement, that when the teacher attempted to teach the children independency, there was a decrease in dependency behaviors in both boys and girls. In Group IV: Contrast, there was a trend toward increased dependency. During the two-week follow-up, two months later, the marked differences among groups were no longer present. This study demonstrates that teachers can change dependent behavior under experimental conditions. Functioning out of that condition, teachers apparently revert to their own "naturalistic" style with the result that all children are behaving like the contrast group.

These studies show that under naturalistic or experimental settings teaching style does affect the dependence and independence trait of a child's personality. Bennett (1977), following a study of formal and informal teaching styles, concluded that the overall effect of teaching style is much more powerful than the effect of personality type. It would, therefore, appear that the demands of the teaching environment do tend to "swamp the effect of personality" (p. 140). Specifically, regarding dependence, Bruner wrote in 1971 that dependence is not a consistent trait, but rather is determined to a considerable extent by situations in which the child finds himself (p. 96).

These results fit into the theoretical model as explained by Sells (1973). In Sell's scheme, personality represents a unique set of behavioral repertoires consisting of patterns of traits and behaviors in settings, the latter being actual behaviors in the settings in which the person is functioning. He claimed that settings limit the behaviors that can occur, and influence their occurrence.

### Summary

This review of literature has focused on: theories of the development of independence and dimensions of independence, and research related to the effects of teacher behavior on pupil response. The following statements are offered as summary:

1. In the normal course of early development, a child moves from dependence to independence, acquiring the various dimensions of independence.

2. Some theorists argue that independence, like creativity, declines when a child enters school and that this decline is a result of what happens to him in school. No study was cited that documents this decline.

3. Evidence that teacher expectations and attitudes affect student behavior was presented. Specifically, studies about teacher's attitude toward independent behavior indicate that teachers prefer compliant, conforming children.

4. Studies on teaching styles showed the positive effects of indirect teaching on achievement, creativity, and dependent-prone students.

5. Two studies were discussed that relate directly to teacher's response to dependent behavior. Both were with pre-school children. No studies were presented on elementary school teacher's response to independent behavior or studies concerning attempts to encourage or maintain independence through the school years.

Therefore, the present study purports to identify a decline in independence in children, kindergarten through fourth grade, and to identify under what conditions of teacher influence independence (self-reliance) is facilitated or inhibited.

### CHAPTER III

#### DESIGN AND PROCEDURE

The purpose of this study was to investigate the decline in independence in children, kindergarten through fourth grade, by observing those children identified as highly independent, studying the effect of teacher-student interaction on the demonstration of independent behavior by those children, and describing the nature of responses of teachers to those independent behaviors. Independence was defined as: "freedom from influence, control, or determination of another or others, specifically relying only on one's self or one's own abilities, judgment, etc., self-reliant, self-confident" (Webster, 1973).

To carry out the purpose of this study the following questions were formulated:

1. Is there a decline in independence in young children, from kindergarten through fourth grade, as measured by the California Test of Personality?

2. Is there a decline in the manifestation of independent behavior in children identified as highly independent, kindergarten through fourth grade, as observed in the classroom?



3. Under what conditions of teacher-student interaction do children identified as highly independent manifest independent behaviors in the classroom?

4. Do teacher responses to independent behaviors relate to the manifestation of independent behavior in the classroom?

### Procedures

#### The Sample

All children in regular classrooms, grades kindergarten through fourth grade, in a Dallas County suburban school district, were administered the California Test of Personality (CTP) during the weeks of September 21-30, 1977. A total of 270 children were tested. The sample of 30 children, six from each grade, was selected on the basis of high scores on three subtests of the CTP. The subtests were: self-reliance, sense of personal freedom, and withdrawing tendencies (freedom from).

Before the study began, permission was secured from parents for each child to be tested, observed, and included in the written results. Similar permission was obtained from each teacher. Names of the children have been changed and teachers are referred to by class number to protect their identities (see Appendix A for a summary of the subjects).

### Method of Data Collection

The California Test of Personality was administered in a group by the classroom teacher in grades one through four, as a part of a battery of tests being given at the beginning of the school year. The investigator administered the test individually to children enrolled in kindergarten. Three children were absent on the day of testing, and they were tested individually by the investigator.

The subjects and their teachers were observed in their classrooms between October 31 and December 2, 1977, to analyze teaching styles, to note the quantity and quality of independent behaviors in the classroom, and to describe teacher response to independent behavior identified.

Three thirty-minute observations of each child were made by means of video-tape recordings. Audio tapes ran concurrently to assure that all verbal interaction was recorded. An observer kept a log of each child's behavior making entries at no less than five-minute intervals. The television camera was operated by an administrative aide employed at the school who had been formally trained in the use of the equipment. The investigator maintained the log.

The school owned the equipment, and it had been used extensively in these classes for two years. Teachers and children who had been in the school in the academic year of

1976-77 had experienced the taping situation. To further minimize the obtrusiveness of the data collection procedure, practice taping sessions of thirty minutes each were made in each classroom in October, 1977.

The taping schedule was devised by the investigator and the teachers with the assistance of the principal. Attempts were made to observe children during the major instructional period of the day. Teachers were instructed to conduct class as usual during the observation. They were not told the identity of the children being observed.

For kindergarten, observations were made to note the behavior of children in three settings: in a total group activity, in a teacher-directed activity, and in free play. Children participate daily in a total group session for an average time of fifteen minutes. Approximately one hour is spent in learning centers. At the beginning of the hour children are assigned to teacher planned art, pre-math, or pre-reading activities. When a task is completed, they are assigned to housekeeping, block, library, or manipulative centers for free play.

In grades one to four, two observation sessions were taped in the morning and one in the afternoon. In these grades the major instructional period is a morning two-hour block for language arts. The children work individually at desks on teacher directed work prescribed by a weekly written

contract which has been individualized according to learner needs and ability. The teacher interacts with an individual or a group of children on specific lessons, primarily listening to children read.

Total class instruction is utilized for other subjects. In grades one and two, other subjects are taught by the classroom teacher after lunch. In third grade, math is taught after language arts, before lunch, with children moving among the three third grade classes according to math level. Science, social studies, and health are taught by the classroom teacher in the afternoon.

In the fourth grade, math is taught before language arts with children moving among the three fourth-grade classes according to math level. Science, social studies and health are taught by the three fourth grade teachers respectively, who rotate around the three classrooms to teach those subjects. The observations in the afternoons were made when the children were with their own classes and their own teachers.

#### Method of Data Analysis

The Instruments. The California Test of Personality (CTP) was used to measure all children's perception of their self-reliance, sense of personal freedom, and withdrawing tendencies (freedom from), to observe any decline in those

areas across grade levels, and to select the sample for observation. The Flanders System of Interaction Analysis (FSIA) was used to analyze teacher-pupil interaction to determine overall teaching style and to note subjects' independent behaviors. When independent behavior was observed and when the teacher made a response to the behavior, the transaction was analyzed using FSIA and the Scale for Measurement of Interpersonal Processes.

The Galloway System which describes teacher non-verbal behavior was planned to analyze teacher behavior but was not used because the camera was not focused on the teacher and did not record data to be analyzed. A detailed description of the instruments used and their application in this study follows.

The California Test of Personality (CTP) was designed to identify and reveal the status of certain highly important factors in personality and social adjustment usually defined as intangibles. The instrument seeks to provide evidences of a person's characteristic modes of response in a variety of situations which vitally affect him as an individual or as a member of a group. Individual reactions to items are obtained, not primarily for the usefulness of total or section scores, but to detect the areas and specific types of tendencies to think, feel, and act which reveal desirable individual adjustments.

The CTP is organized around the concept of life adjustment as a balance between personal and social adjustment. Personal adjustment is assumed to be based on feelings of personal security and social adjustment on feelings of social security. The items on the Personal Adjustment half of the test, self-reliance, sense of personal worth, sense of personal freedom, feeling of belonging, withdrawing tendencies (freedom from), and nervous symptoms, are designed to measure evidences of personal security. The items on the Social Adjustment half of the test, social standards, social skills, anti-social tendencies, family relations, school relations, community relations, are designed to measure evidences of social security.

The items of interest for this study were self-reliance, sense of personal freedom, and withdrawing tendencies (freedom from). These components are not names for so-called general traits, but are, rather, names for groupings of more or less specific tendencies to feel, think, and act. The CTP Manual (Thorpe, Clark, & Tiegs, 1953) states the following:

Self-reliance - An individual may be said to be self-reliant when his overt actions indicate that he can do things independently of others, depend upon himself in various situations, and direct his own activities. The self-reliant

person is also characteristically stable emotionally, and responsible in his behavior.

Sense of personal freedom - An individual enjoys a sense of freedom when he is permitted to have a reasonable share in the determination of his conduct and in setting the general policies that govern his life. Desirable freedom includes permission to choose one's own friends and to have at least a little spending money.

Withdrawing tendencies - The individual who is said to withdraw is the one who substitutes the joys of a fantasy world for actual successes in real life. Such a person is characteristically sensitive, lonely, and given to self-concern. Normal adjustment is characterized by reasonable freedom from these tendencies. (p. 3)

Certain outcomes such as knowledge, understandings, and skills, once attained remain relatively stable and tests designed to reveal their presence may possess relatively high statistical reliability. However, in the normal student, items as measured by this test touch relatively sensitive personal and social areas and such student attitudes may change in a relatively short time. For these reasons the statistical reliability of instruments of this type will

sometimes appear to be somewhat lower than that of good tests of ability and achievement.

The coefficients of reliability, number of cases, standard errors of measurement are given in the table below for the subsections used in this study. These reliability coefficients found in the CTP Manual (Thorpe & others, 1953, p. 4) were computed with the Kuder-Richardson formula.

#### Reliability Coefficients

##### CTP - Primary

Subscores	r	S.E. Meas.
Self-reliance	.73	0.91
Sense of personal freedom	.73	0.91
Withdrawing tendencies	.71	1.08
Number of cases	255	

#### Reliability Coefficients

##### CTP - Elementary

Subscores	r	S.E. Meas.
Self-reliance	.64	1.50
Sense of personal freedom	.79	1.49
Withdrawing tendencies	.83	1.65
Number of cases	648	

The CTP Manual cites eight references in describing the validity of the test. Jackson (1946) in an analysis of



five evaluation methods concluded that the paper-and-pencil technique is superior not only to three rating methods but to the interview method as usually used by psychologists.

The Flanders System of Interaction Analysis (FSIA) contains ten micro-elements on the psycho-social level. All ten categories were used to analyze teacher-pupil interaction. Categories 8, 9, and 10 were used to analyze pupils' behavior (see Appendix B for FISA category explanations).

Flanders (1970) stated that the purposes of interaction analysis are to study teaching behavior by keeping track of selected events that occur during classroom interaction, to help a teacher develop and control his teaching behavior, and to investigate the relationships between classroom interaction and teaching acts to explain some of the variability in the chain of events.

When a category system is used, each behavior of the teacher or pupil(s) is counted whenever it occurs. The FSIA categories are mutually exclusive, and a researcher is able to select one or more categories every three seconds during a teacher's lesson. In practice, a trained observer is able to code as many as 1,000 responses during a 45-minute lesson. Once the coding has been completed, the total number of tallies and the percentage of time spent in each category are calculated. The category totals may be added in numerous combinations. Several combinations were used in this study.

Categories 1-7 were combined to produce percentage of time for teacher talk. Categories 8-9 were combined to produce percentage of time for pupil response. Categories 1 to 4 were combined to produce percentage of time for teacher-talk indirect; categories 5 to 7 were combined to produce percentage of time for teacher-talk direct. Categories 8 and 9 were used to produce percentage of time for pupil response and percentage of time for pupil initiation, respectively.

Flanders (1970) states, "Pupil independence and self-direction are even greater unknowns than either pupil achievement or pupil attitudes" (p. 379). He suggested that one approach to measuring those tendencies is to make inferences about independence and self-direction from interaction analysis data. He believed that the inability of the FSIA to distinguish between 8's and 9's from a voice tape recording has been a barrier to progress in this area. A variation of interaction analysis coding involving systematic observer ratings of overt pupil behavior based on time sampling procedures might overcome this difficulty (p. 379). Such observations would have to be in live settings.

Flanders' suggestions for distinguishing between Categories 8 and 9 were followed in coding pupil behavior (Flanders, 1970, pp. 48-50). The dimensions used to separate response from initiation were:

1. Predictability of response versus voluntary embellishment or enlargement of a topic or task.
2. Indifference or conformity versus expression of will through independent judgment.
3. Noncreativity versus creativity.
4. Lower mental processes versus higher mental processes.

Flanders' recommendation for the conservative use of Category 9 was followed by the observers. Therefore, Category 8 was used not only when the evidence was clear, but also Category 8 was used for all cases when there was reasonable doubt about Category 9. By reserving Category 9 for those cases in which the observer is confident,

. . . it is possible to infer, from the proportion of all pupil talk, something about the freedom of pupils to express their own ideas, to suggest their own approach to a problem, and to develop their own explanations or theories. (p. 49)

Observational systems which are category systems can be further classified according to the amount of inference required of the observer (Rosenshine, 1971). The term 'inference' refers to the process intervening between the objective behavior seen or heard and the coding of this behavior on an observational instrument. Rosenshine

classified category systems as low-inference measures because the items focus upon specific, denotable, relatively objective behaviors such as 'teacher repeats student ideas' or 'teacher asks evaluative questions', and also because the behaviors are recorded as frequency counts.

In observational studies the most common use of the term reliability is the inter-rater agreement, which refers to the agreement between two raters who observe the same class. Medley and Mitzel (1963), following a review of Flanders' process for calculating observer agreement, stated that "these reliabilities have limited relevance" (p. 273). They continued to state that the use of scores for either comparing different teachers or for studying differences in a single teacher's behaviors implies inferences about unobserved behavior, particularly when behaviors are related to student achievement and attitudes. Satisfactory evidence of reliability of the records and scores based on them would have to show that teacher behavior (within a given situation) is sufficiently stable in relation to observed differences between teachers to warrant such inferences.

Medley and Mitzel (1963) believed the absence of appropriate information on reliability does not call into question any of the findings of interest in Flanders' studies. "A critical ratio justifying rejection of the null hypothesis is de facto evidence that the measuring instrument

used had reliability sufficient for the purpose for which it was used" (p. 274). Flanders' system has been described as "a clearly pioneering program of research" (Soars, 1972, p. 175), the most thoroughly developed system (Aspy, 1972), "the most sophisticated technique . . . thus far," and ". . . extremely ingenious" scheme (Medley & Mitzel, 1963, pp. 273-274), the best known (Rosenshine, 1971), and the most widely used (Rosenshine, 1971; Simon & Boyer, 1974).

Flanders (1970) reviewed seven projects using FSIA designed by him to compare interaction analysis variables with some educational outcomes such as measures of student achievement and attitudes as well as sixteen other studies. Among other reviews of studies using FSIA are Aspy (1972), Soar (1972), and Rosenshine and Furst (1971).

The Scales for Measurement of Interpersonal Processes (Aspy, Roebuck, Willson, & Adams, 1974) were used to describe teacher responses to demonstration of independent behavior of students (see Appendixes C, D, & E for the scales). These scales were adapted by Aspy and others from the Carkhuff Scales of (1) Emphatic Understanding in Interpersonal Processes, (2) The Communication of Respect in Interpersonal Processes, and (3) Facilitative Genuineness in Interpersonal Processes (Carkhuff, 1969). These scales are based on Rogers' (1969) theoretical formulations. Rogers stated that the facilitation of significant learning rests

upon certain attitudinal qualities which exist in the personal relationship between the facilitator and the learner. Those qualities which facilitate learning are: realness (genuineness), prizing, acceptance, trust (positive regard), and empathetic understanding (empathy). Studies using these procedures are summarized in Carkhuff and Truax (1967), Aspy (1972), and Roebuck (1975, 1976).

#### Method for Rating Tapes

Four three-minute segments of each tape were rated. This follows Aspy's procedures (1972) for rating tapes using FSIA. The time interval before and between each segment was four minutes; the number four was selected at random. During each three-minute segment, behavior was rated every three seconds, for a total of 60 ratings.

Pupil behavior was rated from the three video tapes by the investigator and two other persons. Training sessions of approximately five hours included practice in rating tapes. All three raters viewed the data together to assure the same behaviors were being rated. Inter-rater reliability was not computed as the ratings were the same or within one percent of the same. Such high reliability was possible because only two categories of FSIA were used most of the time.

Teacher-pupil interaction was rated from the audio tapes of the afternoon total class instructional period by the investigator and two different raters. These raters had been previously trained and were experienced in applying FSIA to teacher-pupil interaction. Practice sessions were held before rating began. The investigator worked with each rater separately to assure that the same behavior was rated by each rater. Variations in ratings resulted from differences among raters as to the category of a behavior and were not due to rating different behavior. The rapid pace of interactions in class discussions and the use of all 10 categories accounts for the wide variations in inter-rater reliability. Inter-rater reliability was computed for each rating using the Scott method (1955). For further discussion of this method, see Flanders (1967).

Any data significant to this study that could not be analyzed by the above instruments is described in Chapter IV.

### Statistical Analysis

A two-way (sex x grade) analysis of variance (ANOVA) was performed on the students' subscores of the three subtests and totals of the CTP. For further discussion of this method the reader is referred to Glass and Stanley (1970). The North Texas State University computer program STA040 (1975) was used for computation. For each analysis that was

significant at the .05 level Scheffé-type contrasts were performed between each grade level.

The means of the ratings were used to compute the following percentages from the results of the FSIA: teacher talk and pupil talk; teacher-talk direct and teacher-talk indirect; and, student response and student initiation. Means of the ratings of teacher raw scores for the Scale of Interpersonal Processes were also computed.



## CHAPTER IV

### FINDINGS

The purpose of this study was to investigate the decline of independence in children, kindergarten through fourth grade. Three subtests of the California Test of Personality (CTP), self-reliance, sense of personal freedom, withdrawing tendencies (freedom from) were administered to 270 children, kindergarten through fourth grade. Thirty children, six from each grade level, scoring highest on the subtests, were observed in their classrooms to note independent behavior. Teacher behavior was observed to determine the effects of teacher-student interaction on the demonstration of independent behavior of those children and to describe the nature of teacher responses to independent behavior.

For the purpose of this study independence was defined as, "... free from influence, control, or determination of another or others, specifically relying only on oneself or one's own abilities, judgment, etc., self-reliant, self-confident" (Webster's 1973). For quantifying independent behavior, the definition of Flanders System of Interaction Analysis (FSIA), Category 9,

Pupil-talk initiation: Talk by pupils which they initiate. Expressing own ideas; initiating a new topic; freedom to develop own opinions and a line of thought, like asking thoughtful questions; going beyond existing structure. (Flanders, 1970, p. 34) provides an appropriate classification for independent behavior as defined above.

Answers to the following questions were sought:

1. Is there a decline in independence in young children from kindergarten through fourth grade as measured by the California Test of Personality?
2. Is there a decline in the manifestation of independent behavior by children identified as highly independent, kindergarten to fourth grade, as observed in the classroom?
3. Under what conditions of teacher-pupil interaction do children identified as highly independent manifest independent behavior in the classroom?
4. Do teacher responses to independent behaviors relate to the manifestation of independent behaviors in the classroom?

Answers to the above questions were sought using the following sources of information:

1. A two-way (sex x grade) analysis of variance (ANOVA) performed on the students' subscores and total of subscores of the CTP; and pre-planned Scheffé-type contrasts

performed between each grade level where significance was found at the .05 level;

2. Percentage of mean ratings of subjects' observed behavior rated in FSIA Category 9;

3. Percentage of mean ratings in FSIA Categories 1-7 for teacher-talk and percentage of mean ratings in FSIA Categories 8 and 9 for pupil-talk; percentage of mean ratings in Categories 1-4 for teacher-talk indirect and percentage of mean ratings in Categories 5-7 for teacher-talk direct; and,

4. Observers' descriptions of teacher responses to independent behavior in the classroom.

### Findings for Each Question

#### Question One

A two-way (sex x grade) Analysis of Variance (ANOVA) was performed on the subscores and the total of subscores of the CTP, using North Texas Computer Program STA040 (1975). For purposes of the analysis raw scores were converted to standard scores according to the CTP Manual (Thorpe & others, 1953). This procedure yielded F-ratios that were non-significant for all variables, self-reliance, sense of personal freedom, withdrawing tendencies (freedom from), and the total of scores. The F-ratios and probabilities are displayed in Table 1. No significant differences were found in scores between sex and grade. Therefore, pre-planned

Table 1  
Results of Two-Way ANOVA by Sex and Grade,  
Subscores and Total Scores of CTP

Source of Information	Self-reliance		Personal Freedom		Withdrawing Tendencies (Freedom from)		Total Scores	
	F	P	F	P	F	P	F	P
Rows (Sex)	2.79756	0.0956	1.58546	0.2091	0.61608	0.4333	0.21267	0.6451
Columns (Grades)	0.63404	0.6387	1.95857	0.1012	1.53073	0.1936	0.60819	0.6571
Row-columns	0.89799	0.4658	0.42958	0.7872	0.89892	0.4652	0.34805	0.8453

Scheffé-type contrasts between sex and grade were not performed. (For ANOVA Summary Tables, see Appendixes F, G, H, and I.)

#### Summary of Question One

Two way (sex x grade) ANOVA revealed no significant differences in subjects' scores on the subtests of the CTP between sex and grade.

#### Question Two

Percentage of observed independent behavior was computed from the means of all ratings in FSIA Category 9, pupil-talk initiation. Inter-rater reliability was not computed as all ratings were the same or within one percentage point of the same. Percentage of Category 9 behavior ranged from 35 to .6 in twenty of thirty subjects who demonstrated independent behavior during the time sampled (see Table 2).

The mean percentage of observed independent behavior for each grade level ranged from 21 in kindergarten to 1.1 in fourth grade. According to the data there was a sharp decline in observed independent behavior from kindergarten to first grade, a decline from first to second grade, a rise at third, and a decline at fourth (see Table 3).

A decline in the number of subjects who demonstrated independent behavior was also noted. Independent behavior was observed in five subjects in kindergarten, six in first

Table 2

Percentage of Subject's Behavior  
Rated in FSIA Category 9\*

Grade and Subject	Percentage of 9 Behavior
Kindergarten S <sub>1</sub>	26.80
S <sub>3</sub>	6.30
S <sub>4</sub>	35.00
S <sub>5</sub>	23.90
S <sub>6</sub>	35.00
First Grade S <sub>1</sub>	2.90
S <sub>2</sub>	5.30
S <sub>3</sub>	13.70
S <sub>4</sub>	1.50
S <sub>5</sub>	.60
S <sub>6</sub>	11.70
Second Grade S <sub>3</sub>	1.40
S <sub>4</sub>	2.78
S <sub>5</sub>	2.00
S <sub>6</sub>	.60
Third Grade S <sub>2</sub>	12.20
S <sub>4</sub>	13.47
S <sub>5</sub>	1.81
Fourth Grade S <sub>4</sub>	5.00
S <sub>6</sub>	1.60

\*Based on time sampling procedures (see Chapter III).

grade, four in second grade, three in third grade, and two in fourth grade.

Table 3  
Mean Percentage of Observed Behavior Rated  
in FSIA Category 9 by Grade\*

Grade	Mean % of 9 Behavior
Kindergarten	21.00
First grade	5.98
Second grade	1.13
Third grade	4.58
Fourth grade	1.10

\*Based on time sampling procedures (see Chapter III).

Independent behavior was observed in different situations (see Table 4). In kindergarten 87% of the observed independent behavior occurred in learning centers. In first grade one child was observed in a learning center, accounting for 25% of observed independent behavior in grade one. Sixty percent of the observed independent behavior in first grade was in pupil-to-pupil interaction, 15% when a child was working alone. In second grade 97% of the observed independent

behavior was in pupil-to-pupil interaction. In third grade one child was observed in pupil-to-pupil interaction, accounting for 44% of observed independent behavior. Another child was observed working alone for 39% of observed independent behavior, and one in teacher-pupil interaction for 17% of observed independent behavior. In fourth grade, 75% of observed independent behavior was observed in pupil-to-pupil interaction, 25% in teacher-pupil interaction.

Table 4  
Mean Percentage of Category 9 Behavior  
Occurring in Various Settings\*

Grade	Total	<u>In Learnings Centers</u>		Pupil to Pupil	Teacher to Pupil	Alone
		Alone	With Pupils			
Kinder- garten	21.00	5.80	12.50	2.60	.55	
First	5.98	1.50		3.60		.88
Second	1.13			1.03		.10
Third	4.58			2.25	.30	2.03
Fourth	1.10			.83	.27	

\*Based on time sampling procedures (see Chapter III).



### Symmary of Question Two

Independent behavior as observed declined from 21% in kindergarten to 1.1% in fourth grade. The number of subjects demonstrating independent behavior increased from kindergarten to first grade, declined in second, third, and fourth grades. Children working in learning centers accounted for the differences in the amount of observed independent behavior between kindergarten and the other grades. In other grades pupil-to-pupil interaction accounted for most of the independent behavior observed with the exception of one third grader observed working alone.

### Question Three

The percentage of teacher talk was computed from the mean of ratings in FSIA Categories 1-7. The percentage of pupil talk was computed from the mean of ratings in FSIA Categories 8 and 9. The percentage of teacher-talk indirect and the percentage of teacher-talk direct were computed from ratings in FSIA Categories 1-4 and 5-7, respectively.

Inter-rater reliability as computed by the Scott method (1955) ranged from  $\kappa = .80$  to  $\kappa = .93$  (see Appendix J for  $\kappa$  coefficients for each teacher rating). For review, the ten FSIA Category headings are (see Appendix B for detailed descriptions):

Teacher-talk response (indirect)	1. Accepts feelings
	2. Praises or encourages
	3. Accepts students' ideas
	4. Asks questions
Teacher-talk initiation (direct)	5. Lecturing
	6. Giving directions
	7. Criticizing or using authority
Pupil	8. Response
Talk	9. Initiation
	10. Silence or confusion

The results of teacher talk and pupil talk computations for each teacher and the amount of each subject's observed independent behavior are displayed in Table 5. All ratings were made using a time sampling procedure described in Chapter III. The percentage of teacher talk and the percentage of pupil talk ranged from 66.3 and 31.79 for teacher 3B to 29.42 and 16.33 for teacher 2A. For further clarity ratios of teacher talk and pupil talk (T/P) are also given. These ratios ranged from 2.0 to .619.

Independent behavior occurred under conditions of high ratios of teacher-pupil talk, as in kindergarten and third grade and under a low ratio for teacher 2B. Conversely,

Table 5  
Percentage of Teacher-Pupil Talk and Percentage  
of Subjects' Category 9 Behavior

Teacher	% Teacher Talk	% Pupil Talk	T/P Ratio	Percentage of 9 Behavior					
				S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>	S <sub>6</sub>
Kindergarten	61.25	33.90	1.81	26.8	0	6.3	35.00	23.90	35.00
Grade One - A	41.88	30.79	1.36	2.90	5.3				
B	30.28	48.88	0.619			13.7	1.50	0.60	11.70
Grade Two - A	29.42	16.33	1.80			1.4	2.78		
B	49.63	34.72	1.43					2.00	0.60
Grade Three A	61.68	35.14	1.75	0	12.2	0	13.47		
B	66.30	31.79	2.09					1.81	
C	40.08	53.38	0.75						0
Grade Four A	60.83	31.20	1.95	0	0				
B	31.06	15.50	2.00			0	5.00	0	
C	55.00	33.70	1.63						1.60

subjects who demonstrated little or no observed independent behavior were found in a classroom where the teacher had a high ratio as well as in a classroom where a teacher had a low ratio.

Table 6 shows the results for teacher-talk indirect and teacher-talk direct and the amount of each subject's independent behavior. The percentage of indirect and direct teacher talk ranged from 76.13 to 23.78 for teacher 3B to 35.97 and 64.03 for teacher 2B. Ratios of indirect talk to direct talk (I/D) were also computed.

Observed independent behavior occurred under an indirect teaching style as evidenced with the kindergarten teacher, under a direct style as evidenced with the two first grade teachers and under an almost even ratio as with teacher 3A. Conversely, subjects who demonstrated little or no observed independent behavior were in classrooms where ratios of indirect to direct teacher talk ranged from 3.19 for teacher 3B to .56 for teacher 2B.

### Summary of Question Three

The manifestation of independent behavior in the classroom by subjects does not appear to be influenced by teachers' styles of interacting with pupils.

Table 6

Percentage of Teacher-Talk Indirect, Teacher-Talk Direct  
and Percentage of Subjects' Category 9 Behavior

Teacher		% Teacher Talk Indirect	% Teacher Talk Direct	I/D Ratio	Percentage of 9 Behavior					
					S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>	S <sub>6</sub>
Kindergarten		63.68	33.92	1.96	26.8	0	6.3	35.00	23.9	35.0
Grade One	A	37.71	62.29	0.61	2.9	5.3				
	B	39.63	60.37	.66			13.7	1.5	0.6	11.7
Grade Two	A	52.83	47.17	1.12	0	0	1.4	2.78		
	B	35.97	64.03	0.56					2.0	0.6
Grade Three	A	50.6	49.39	1.02	0	12.2	0	13.47		
	B	76.13	23.87	3.19					1.81	
	C	47.81	52.18	0.92						0
Grade Four	A	66.58	33.42	1.99	0	0				
	B	29.16	70.84	2.43			0	5.0	5.0	
	C	38.53	61.47	0.63						1.6

#### Question Four

Less than five percent of all observed independent behavior was noted in interaction with the teacher. This sample of observed independent behavior was considered too small to rate the teachers' specific responses. When children were engaged in independent behavior in learning centers, with other pupils or alone, the teacher generally did not intervene. Two exceptions are described. One child alone in a learning center was called out by the teacher to join another group of children in a teacher-directed task. In another instance, the teacher noticed a child's movement toward assisting another child and commented, "You want to help him, don't you?" (FSIA Category 3).

In several instances a teacher's question prompted a reply from a subject that was rated as independent (FSIA Category 9). Following the student's comment, the teacher might respond with a praise statement (FSIA Category 2), an encouraging statement (FSIA Category 3) and then another question (FSIA Category 4). In no instance did the dialogue continue between the pupil and teacher. Such interactions when rated resulted in one three-second rating for the teacher, too small for analysis. None of this is to imply that there was no interaction between subjects and teacher; only behavior of subjects that could be rated in FSIA Category 9 (Initiation) was analyzed.

#### Summary of Question Four

The sample of independent behavior observed in interaction with teacher was too small to analyze according to the Scale for Measurement of Interpersonal Processes.

#### Summary of Findings

The summary of the findings of this study are as follows:

1. There was no decline in independence in young children from kindergarten through fourth grade as measured by the California Test of Personality.
2. There was a decline in the manifestation of observed independent behavior by children identified as highly independent from 21% in kindergarten to 1.1% in fourth grade. There was a similar decline across grade levels for the number of subjects demonstrating independent behavior. Children working in learning centers accounted for the differences between kindergarten and the other grades. Children in pupil-to-pupil interaction accounted for the differences in observed independent behavior in grades one through four.
3. No specific condition of teacher-pupil interaction was found to influence the manifestation of independent behavior in the classroom.
4. The sample of observed independent behavior in interaction with the teacher was too small to analyze the teachers' responses to independent behavior.

## CHAPTER V

### SUMMARY, DISCUSSION, AND RECOMMENDATIONS

#### Summary of Investigation

This study was designed to investigate the decline in independence in children, kindergarten through fourth grade. A sample of 30 children, six from each grade level, was selected on the basis of high scores on three subtests of the California Test of Personality. The test had been administered to 270 children in regular classrooms in a Dallas County suburban school district in September, 1977. An Analysis of Variance (ANOVA) was performed to determine significant differences between sexes and across grade levels.

In November and December, 1977, the subjects were observed in their classrooms for three thirty-minute sessions to note the incidence of independent behavior. The observations were made by means of video-tape recording. Three trained raters observed the tapes, and, using a time sampling procedure, rated behaviors applying Categories 8 and 9 of Flanders System of Interaction Analysis to determine frequency of independent behavior.

Teacher behavior was observed to determine under what conditions of teacher influence independent behavior occurred.



Three trained raters applied the Flanders System of Interaction Analysis to audio tapes of teachers that ran concurrently with video-tapes. Teacher responses to subjects' independent behavior were also noted.

### Summary of Findings

This study sought answers to four specific questions:

1. Is there a decline in independence in young children from kindergarten through fourth grade as measured by the California Test of Personality?

The results of this study revealed that there was no decline across grade levels in the scores of three subtests of the California Test of Personality, self-reliance, sense of personal freedom, and withdrawing tendencies (freedom from).

2. Is there a decline in the manifestation of independent behavior in children identified as highly independent, kindergarten to fourth grade, as observed in the classroom?

The results of this study showed a decline in observed independent behavior by the subjects from 21% in kindergarten to 1.1% in fourth grade. There was a similar decline across grade levels for the number of subjects demonstrating independent behavior. Children working in learning centers accounted for the differences between kindergarten and the other grades. Children in pupil-to-pupil interaction

accounted for the differences in observed independent behavior in grades one through four.

3. Under what conditions of teacher-student interaction do children identified as highly independent manifest independent behaviors in the classroom?

The results of this study identified no specific condition of teacher-pupil interaction as influencing the manifestation of independent behavior in the classroom.

4. Do teacher responses to independent behaviors relate to the manifestation of independent behavior in the classroom?

The sample of observed independent behavior in interaction with the teacher was too small to analyze the teachers' responses to independent behavior.

### Discussion

The results of this study confirm the opinion of Suchman (1964) that there is a decline in independence in children after entering school. It further gives support to Flanders' (1970) observation that teachers initiate and students respond, and that encouragement of more independence and self-direction is the opposite of what is going on in classrooms today.

The decline in subjects' observed independent behavior between third and fourth grade is similar to the drop in

creativity at age nine as reported by Torrance (1962). The curve of subjects' observed independent behavior produced by the data from this study is different from Torrance's curve of the development of creativity below fourth grade. The amount of observed independent behavior dropped between kindergarten and second grade and went up slightly in third grade. Figure 1 shows the curve for observed independent behavior in this study.

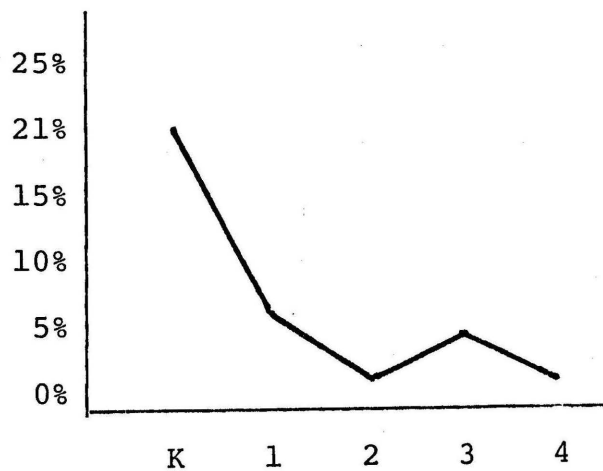


Figure 1. Developmental curve of observed independent behavior.

Torrance (1962) developed a generalized curve of creative-thinking abilities in children based on studies of children preschool through college. He noted that beginning at age three, there is an increase until a peak is reached at about age four and one-half. A drop occurs at

about age five at about the time a child enters kindergarten and is followed by an increase in first, second, and third grades. At about age nine, near the end of third grade or at the beginning of fourth grade, there is a severe decrement in almost all creative-thinking abilities. In the same report, Torrance presented the developmental curve for originality on non-verbal tasks. Because Barron (1953b) found a correlation between originality and independence, that curve is presented here for comparison with the curve for the development of independence produced in the present study (see Figure 2).

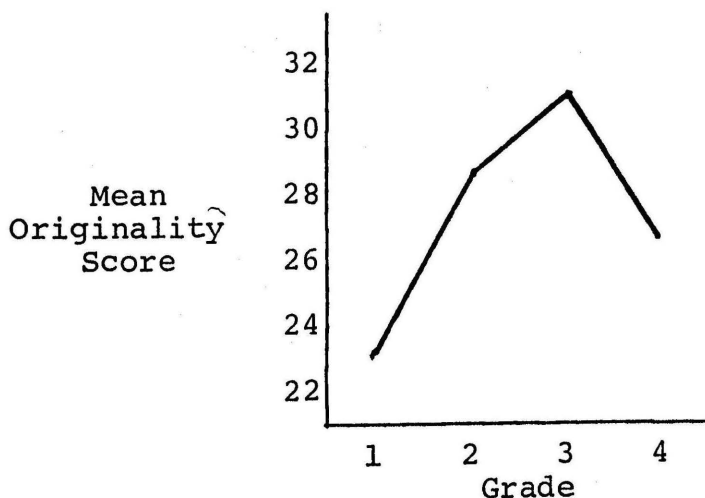


Figure 2. Developmental curve for originality on non-verbal tasks.

As can be seen in Figures 1 and 2, observed independent behavior decreased from kindergarten to second grade, while originality increased from first to third grades.

Torrance cited increasing demands for socialization and cultural discontinuities as explanations for the decline in creativity at age five and at age nine. In the present study, these explanations might apply to the decline in subjects' observed independent behavior and will be discussed.

In addition to investigating the decline in independence, this study was planned to identify factors effecting the decline so that teaching practices might be modified to facilitate the development of independence. One factor considered to have an effect on independent behavior in the classroom that was investigated was teacher-pupil interaction and the teacher's use of interpersonal processes. Because teachers' indirect style of teaching and use of interpersonal processes had been found to relate to development of creativity in children (see Chapter II, pp. 35, 36) the influence of these two factors on independent behavior was of interest in this study. However, no specific condition of teacher-pupil interaction was found to influence the manifestation of observed independent behavior in the classroom. Also, the sample of observed independent behavior that occurred when subjects were interacting with teacher was too small to analyze the responses according to scales for measuring interpersonal processes.

The reader will recall that the sample of teacher-pupil interaction used for analysis was taken from afternoon

Classes when the subjects were involved with the teacher and other pupils in a total class activity. This was planned because in grades one through four the major instructional period of the morning was the two-hour block for language arts which was primarily individualized and independent in the sense that children worked alone on learning contracts written by the teacher; therefore, teacher-pupil interaction was at a minimum. In this school pupils spent twice as much time in this type of teacher-directed activity as in a teacher-directed whole class activity. It was found that when children were working independently in learning centers, alone, or demonstrated independence through pupil-pupil interaction, the teacher rarely intervened. Independent behavior that was observed in teacher-pupil interaction was observed during the afternoon whole class discussions and was so small that it was not analyzed.

The lack of effect of teaching style and the teachers' use of interpersonal processes may be due to the organization of the classroom. Since the organizational plan in a classroom helps establish the learning and social climate, the way in which these classrooms are organized may account for the differences in observed independent behavior across and within grade levels. The learning and social climate varied within and across grade levels with respect to the use of learning centers and the opportunity for social contacts.

The use of individualized contracts for independent study was similar for all classes.

Pupils working in learning centers accounted for 87% of the observed independent behavior in kindergarten and 25% of the observed independent behavior in first grade. The presence of learning centers alone does not account for independent behavior or lack of independent behavior. One child in kindergarten did not demonstrate independent behavior which suggests that a child may be in a learning center and still be relying on the teacher for direction and control. Also, learning centers were present in two of the three third-grade classrooms but none of the subjects were observed working in those centers at the teacher's direction or at their own direction.

In the first and third grade classrooms without learning centers there existed a wide variety and an abundance of instructional material available for use by students. In all classrooms listening centers were present. Only in one first grade class were children seen using this center and that was to complete a teacher-directed activity in the center that was a part of the learning contract for that day.

While children are assigned to the learning center according to a teacher-written contract, once they are in the center, children in kindergarten are then free to select from a variety of materials the things they wish to use. All but

one of the subjects in kindergarten were observed directing their own activities once they were in the assigned center. This was also true of the first grade child in a learning center who was observed to be writing her own sentences created from words and phrases available in that center.

In this difference of use of learning centers between kindergarten and first grade, Torrance's (1962) explanation of the drop in creativity for this age group might apply. The fact that about one-third of the time in kindergarten may be allotted for free play in learning centers would offer a child more continuity between the play activities of early childhood and the beginning school experience. In discussing the decline in creativity upon entering school, Torrance stated that, "many children at this age are inhibited in their thinking because they have been warned harshly by parents and teachers that they must eliminate fantasy" (p. 6). He further stated that the decline is due to demands for social accommodation, compromise, and acceptance of authority. The differences between kindergarten and first grade in this study present sharp discontinuities for the child; play and its accompanying fantasy are all but eliminated.

The findings of this study revealed that independent study in and of itself does not produce independent behavior. This supports Dittman's (1976) conclusion that independent study as a process of instruction does not automatically



produce autonomous behaviors if the plan of study does not focus on the development of that trait. In this school students work from contracts that have been prepared by the teacher. If the definition of contract, ". . . an agreement between two or more people to do something . . . ." (Webster, 1973), is applied, a question could be raised about the use of the term contract for what is going on in these classrooms. The contract in these classes is a written means of the teacher controlling and structuring learning for the child. Despite the fact that the language arts block is organized around individualized, independent study, these classrooms might be considered traditional according to many definitions (Minuchin, Biber, Shapiro, & Zimiles, 1969; Sullivan, 1974; Bennett, 1977).

Several studies of open and traditional curricula (Minuchin & others, 1969; Miller & Dyer, 1972, Sullivan, 1974, and Stallings, 1975) have examined how teaching practices relate to child outcomes. Stallings concluded that highly controlled classroom environments in which teachers used systematic instruction and a high rate of positive reinforcement contributed to higher scores in math and reading. Flexible classroom environments which provided for exploratory materials and allowed for more choice on the part of the child contributed to higher scores on non-verbal reasoning, lower absence rates, and a willingness on the part

of the student to work independently. These findings generally support the findings the researchers cited above.

Sullivan (1974), in discussing her findings, stated, It was surprising that pupils in the open classroom did not surpass traditional pupils in the majority of creative-thinking activities, for the climate in the open classroom was designed to free children of obstacles that lead to restraint and conformity in thought and performance. However, the fact that pupils in the open classroom chose to write fictitious stories, even though their topics in creative-writing were not original, is further evidence of a certain inventive quality in their performance on creative-thinking activities--a growth of imagination. It was evident from the stories written by pupils in the open classroom that dialogue used in role-playing and drama has a direct effect on the use of dialogue in storytelling.

The striking difference between the groups in two behavioral traits--independent decision-making in task performance and self-confidence in facing a new situation--was not surprising. Since the home backgrounds of the two groups were similar, it appears that the teacher's priorities and

classroom organization and atmosphere had a strong influence on behavior. (p. 499)

Having placed the classrooms in this study on the traditional-end of the traditional-open continuum based on the active role of the teacher in planning the curriculum, one of the findings of this study and the results of a study of open classrooms conducted by Travis (1974), raises some questions about the placement of all these classrooms in that category. Travis studied several behaviors thought to be significant to the philosophy of an open classroom by observing 19 children in a second grade open school over a two-month period. The percentage of time the students spent verbalizing and the number of individual interactions with teachers and peers were recorded.

Travis found that the subjects spent a high percentage of their time (an average of 83%) at their desks during any given ten-minute observation period. They engaged in limited interaction with their teacher. During an hour a child would normally receive six interactions with the teacher. This contact was usually limited to giving directions or the morning greeting. Many of the children she studied, ten out of 19, received no contact or acknowledgment during the observation period. She pointed out that these findings were not due to poor implementation of the open concept, but rather to the size of the class, 54 pupils to two teachers.

Travis found that the number of peer interactions were quite high. The average child in her study had twelve interactions with peers during a given ten-minute period of observation. The boys were slightly more active in this respect than the girls. Travis states that the active involvement with peers is consistent with the goal of the open classroom.

In the present study pupil-to-pupil interaction, in most cases, accounted for the independent behavior of subjects observed outside of learning centers. In kindergarten, first, and third grades there was considerable activity, a constant but moderate level of noise, interchanges among pupils, and pupils moving about to get new materials and to share materials or conversation with others. By contrast, the second and fourth grades were very quiet, orderly, and formal. Both of these classrooms seem to fit Torrance's (1962) description of the fourth grade when he is accounting for the drop in creativity at age nine. As the classes in these two grades are currently structured by the teachers, they represent a sharp discontinuity between what the child has experienced in the previous grades, particularly with respect to the freedom to move about and have interaction with peers.

This opportunity for social contacts between pupils is the third of four dimensions Flanders (1970) presents in

discussing how a teacher can promote more independence and self-direction in the classroom. Social contacts refer to how often and under what circumstances one pupil contacts another. Closely related is the fourth dimension, range of ideas, which refers to what is said once there is an opportunity to say something. Pupils must be free to contact each other before they can freely test the full range of ideas they wish to express.

The significance of pupil-pupil talk was shown in a study by Cobb (1972). He investigated the use of ratings of specific task-oriented and non-task-oriented behaviors to predict academic achievement. The subjects were 103 fourth-grade pupils from two elementary schools who were observed for nine consecutive days during arithmetic. Multiple regression equations were generated using rates of specific behaviors as independent variables and standardized achievement scores as dependent variables. Cobb found that the child who talks about academic material to another child as well as attends to his work, is more likely to succeed than the child who attends without interaction. The behavior, talk-to-peers positive, became a powerful predictor within samples for reading and spelling achievement and across samples for arithmetic.

### Conclusions

The decline in observed independent behavior of subjects previously identified as highly independent supports the opinions of others (Suchman, 1964; Flanders, 1970) and is dissimilar to the rise in creativity from kindergarten to third grade, but is similar to the decline at fourth grade. The effect of teacher-student interaction, specifically teaching style and teacher's use of interpersonal processes did not appear to influence the demonstration of independence. It has been suggested that this is due to the limited amount of teacher-student interaction in the classrooms. The way in which classrooms in the study are organized appeared to effect student behavior. The most limiting factors were the use (and non-use) of learning centers and use of teacher-written contracts to guide independent study. Beyond that, student opportunity for social contacts accounted for the independent behavior observed.

### Implications

Based on the observations in classrooms and the results of this study, the following suggestions for enhancing the development of independent behaviors are offered:

1. Pupil participation in preparing contracts.

Flanders (1970) stated, ". . . some form of pupil participation in making plans for school work would logically relate

to the degree of independence and self-direction. . ."  
(p. 311). He further related that the history of having pupils assist in their own learning activities and goals is ". . . quite extensive from Rousseau's Emile through Neil's Summerhill to the recent writings of Carl Rogers" (p. 311).

2. Positive acknowledgment of pupils' independent behavior.

3. Wider use of learning centers at all grade levels with opportunity for pupils to choose centers.

4. More sanctioned opportunities for social contacts among pupils.

The results of this study suggest broader implications, some of which are:

1. Establishment of curriculum goals and objectives that address independence as a trait to be developed as well as a process of instruction;

2. Greater variety of learning activities within and outside the classroom that would foster independence;

3. Use of specific instructional models such as inquiry and problem-solving that would promote independent thinking;

4. Inclusion of activities that would focus on the development of the affective domain and creative-thinking;

5. Preservice and inservice training of teachers in the development of interaction skills that would promote FSIA Category 9 behaviors;

6. Greater emphasis on development of independence in children in the foundation and curriculum courses in Teacher Education and the modelling of independence-producing teaching practices by professors in Teacher Education.

#### Recommendations for Further Research

The results of this exploratory study raise many interesting questions for further investigation. Further research in this subject area might include:

1. Replication of the present study using a larger sample of subjects and longer observation periods.

2. A similar study using different means for selecting the sample, observing the subjects, and, in addition, examining various products of students' work.

3. A similar study conducted in a variety of classroom organizational plans.

4. A longitudinal study that would follow the same pupils from kindergarten through fourth grade.

Once the decline in independent behavior in school has been further verified, a variety of experimental designs could be planned to study effort to maintain the independence a child brings to school.



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## APPENDIXES

## APPENDIX A

### SUMMARY OF SUBJECTS AND SCORES ON SUBTESTS OF CTP

Subjects	Scores*			Total
	S-R	P.F.	W.T.	
<u>Kindergarten Morning</u>				
S <sub>1</sub> Diane, girl, 5.11 <sup>+</sup>	8	8	8	24
S <sub>2</sub> Mary, girl, 5.10	8	5	6	19
S <sub>3</sub> Michelle, girl, 5.9	7	7	6	20
S <sub>4</sub> Todd, boy, 5.8	7	5	8	20
<u>Kindergarten, Afternoon</u>				
S <sub>5</sub> Dina, girl, 6.	6	7	5	18
S <sub>6</sub> Cathy, girl, 6.	7	6	5	18
<u>First Grade - A</u>				
S <sub>1</sub> Billy, boy, 7.1	7	6	5	18
S <sub>2</sub> Sara, girl, 6.10	6	8	8	22
<u>First Grade - B</u>				
S <sub>3</sub> Sandy, girl, 6.4	6	7	7	20
S <sub>4</sub> Rita, girl, 7.1	7	7	4	18
S <sub>5</sub> Tammy, girl, 6.5	6	7	5	20
S <sub>6</sub> Randy, boy, 6.5	8	8	7	23
<u>Second Grade - A</u>				
S <sub>1</sub> Paul, boy, 7.5	5	6	8	19
S <sub>2</sub> Frank, boy, 8.2	5	7	7	19
S <sub>3</sub> Eden, girl, 7.11	5	8	6	19
S <sub>4</sub> Renee, girl, 7.6	7	7	6	20
<u>Second Grade - B</u>				
S <sub>5</sub> Allen, boy, 7.1	7	7	6	20
S <sub>6</sub> Ellen, girl, 7.7	6	7	5	18
<u>Third Grade - A</u>				
S <sub>1</sub> Catherine, girl, 8.1	7	7	6	20
S <sub>2</sub> Pat, boy, 8.2	7	7	6	20
S <sub>3</sub> Charles, boy, 8.11	7	6	8	21
S <sub>4</sub> Ginger, girl, 8.3	7	8	7	22

Subjects	Scores*			
	S-R	P.F.	W.T.	Total
<u>Third Grade - B</u>				
S <sub>5</sub> Connor, boy, 8.2	8	8	5	21
<u>Third Grade - C</u>				
S <sub>6</sub> Helen, girl, 8.1	7	7	5	19
<u>Fourth Grade - A</u>				
S <sub>1</sub> Martha, girl, 9.5	9	11	9	29
S <sub>2</sub> Reva, girl, 9.1	8	10	11	29
<u>Fourth Grade - B</u>				
S <sub>3</sub> Beth, girl, 9.5	9	12	12	31
S <sub>4</sub> Gregory, boy, 10.0	10	12	10	32
S <sub>5</sub> Bradley, boy, 9.10	9	10	11	30
<u>Fourth Grade - C</u>				
S <sub>6</sub> David, boy, 10.0	7	11	12	30

\*S-R: Self-reliance; S.P.: Sense of personal freedom;  
W.T.: Withdrawing tendencies (freedom from). Total  
scores possible in K - 3, 24, eight in each subtest.  
Total score possible in 4th, 36, 12 in each subtest.

+Age of subject as of September 30, 1977.

## APPENDIX B

### FLANDERS' INTERACTION ANALYSIS CATEGORIES\* (FIAC)

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Response	1. <u>Accepts feeling.</u> Accepts and clarifies an attitude or the feeling tone of a pupil in a nonthreatening manner. Feelings may be positive or negative. Predicting and recalling feelings are included.
	2. <u>Praises or encourages.</u> Praises or encourages pupil action or behavior. Jokes that release tension, but not at the expense of another individual; nodding head, or saying "Um hm?" or "go on" are included.
	3. <u>Accepts or uses ideas of pupils.</u> Clarifying, building, or developing ideas suggested by a pupil. Teacher extensions of pupil ideas are included but as the teacher brings more of his own ideas into play, shift to category five.
Teacher Talk	4. <u>Asks questions.</u> Asking a question about content or procedure, based on teacher ideas, with the intent that a pupil will answer.
	5. <u>Lecturing.</u> Giving facts or opinions about content or procedures; expressing <u>his own</u> ideas, giving <u>his own</u> explanation, or citing an authority other than a pupil.
Initiation	6. <u>Giving directions.</u> Directions, commands, or orders to which a pupil is expected to comply.
	7. <u>Criticizing or justifying authority.</u> Statements intended to change pupil behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.

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Pupil Talk	Response	8. Pupil-talk--response. Talk by pupils in response to teacher. Teacher initiates the contact or solicits pupil statement or structures the situation. Freedom to express own ideas is limited.
	Initiation	9. Pupil-talk-initiation. Talk by pupils which they initiate. Expressing own ideas; initiating a new topic; freedom to develop opinions and a line of thought, like asking thoughtful questions; going beyond the existing structure.

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Silence	10. <u>Silence or confusion</u> . Pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.
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\*There is no scale implied by these numbers. Each number is classificatory; it designates a particular kind of communication event. To write these numbers down during observation is to enumerate, not to judge a position on a scale.

## APPENDIX C

### A SCALE FOR THE MEASUREMENT OF A TEACHER'S UNDERSTANDING OF THE MEANING OF CLASS- ROOM EXPERIENCES FOR HER STUDENTS

- Level 1. Neither the tone quality nor the words of the teacher's verbal communication conveys any feelings, and/or she responds inaccurately to the meaning of the students' experiences.
- Level 2. The tone quality of the teacher's verbal communication conveys slight evidence of feelings which are only somewhat appropriate to her students' experiences. She uses no words to explicate her feelings.
- Level 3. The tone quality of the teacher's verbal communication conveys feelings which are quite appropriate to her students' experiences. She is "with" her students. However, she uses no words to explicate her feelings.
- Level 4. The tone quality of the teacher's verbal communication conveys feelings which are appropriate to her students' experiences. Additionally, she uses mild words to describe the feelings.
- Level 5. The tone quality of the teacher's verbal communication conveys feelings which are appropriate to her students' experiences. Additionally, she uses "strong" words to describe her feelings.



## APPENDIX C

### A SCALE FOR THE MEASUREMENT OF THE RESPECT PROVIDED BY THE TEACHER IN CLASSROOM INTERACTION

- Level 1. The teacher communicates a clearly negative regard for the students' individual abilities to learn.
- Level 2. The teacher communicates a somewhat negative regard for the students' individual abilities to operate effectively in learning situations involving memory and recognition.
- Level 3. The teacher consistently communicates a positive regard for the students' individual abilities to operate effectively in learning situations involving memory and recognition, but not with the higher intellectual processes; i.e., creativity, problem-solving, judgment.
- Level 4. The teacher consistently communicates a positive regard for the students' abilities to operate effectively in learning situations involving memory and recognition, and occasionally allows the students to explore the higher intellectual processes.
- Level 5. The teacher consistently communicates a positive regard for the students' abilities to operate effectively at all intellectual levels.

## APPENDIX E

### A SCALE FOR THE MEASUREMENT OF A TEACHER'S GENUINENESS IN HER CLASSROOM INTERACTION WITH STUDENTS

- Level 1. All of the teacher's verbal communications are ritualistic. They seem to be mechanical or practiced.
- Level 2. Most of the teacher's verbal communications are ritualistic, but a few are somewhat spontaneous.
- Level 3. The teacher's verbal communications are about equally distributed between ritualistic and spontaneous.
- Level 4. Most of the teacher's verbal communications are spontaneous, but a few are ritualistic.
- Level 5. All of the teacher's verbal communications are spontaneous. They are neither mechanical nor practiced.

# APPENDIX F

## ANOVA SUMMARY TABLE, VARIABLE 1, SELF-RELIANCE

Source	Sum Squares	DF	Mean Sq.	F	P
Between	663.72401	9	73.74711		
Rows	208.02692	1	208.02692	2.79756	0.0954
Cols	188.59968	4	47.14992	0.63408	0.6387
Row-Col	267.09742	5	66.77435	0.89799	0.4658
Within	19333.61281	260	74.36005		
Total	19997.33682	269	74.33954		

# APPENDIX G

ANOVA SUMMARY TABLE, VARIABLE 2, SENSE OF PERSONAL FREEDOM

Source	Sum Squares	DF	Mean Sq.	F	P
Between	1129.46297	9	125.49589		
Rows	160.77491	1	160.77491	1.58546	0.2091
Cols	794.44117	4	198.61029	1.95857	0.1012
Row-Col	174.24688	4	43.56172	0.42958	0.7872
Within	26365.55825	260	101.40599		
Total	27495.02121	269	102.21197		

# APPENDIX H

## ANOVA SUMMARY TABLE, VARIABLE 3, WITHDRAWING TENDENCIES (FREEDOM FROM)

Source	Sum Squares	DF	Mean Sq.	F	P
Between	1407.22590	9	156.35843		
Rows	83.88917	1	83.88917	0.61608	0.4333
Cols	833.73039	4	208.43260	1.53073	0.1936
Row-Col	489.60634	4	122.40159	0.89892	0.4652
Within	35403.12656	260	136.16587		
Total	36810.35247	269	136.84146		

# APPENDIX I

ANOVA SUMMARY TABLE, VARIABLE 4, TOTAL OF SUBSCORES

Source	Sum Squares	DF	Mean Sq.	F	P
Between	1849.97627	9	205.55292		
Rows	97.44261	1	97.44261	0.21267	0.6451
Cols	1114.63389	4	278.65847	0.60817	0.6571
Row-Col	637.89977	4	159.47494	0.34805	0.8453
Within	119130.16761	260	458.19295		
Total	120980.14388	269	449.74031		

## APPENDIX J

### COEFFICIENTS OF INTER-RATER RELIABILITY EACH TEACHER'S FSIA RATING

<u>Teacher</u>	<u>⌈ Coefficients</u>
Kindergarten	90.22
Grade One A	88.06
One B	80.78
Grade Two A	90.79
Two B	91.14
Grade Three A	91.22
Three B	93.08
Three C	82.74
Grade Four A	91.80
Four B	85.49
Four C	83.20