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The Effects of Teacher Reinforcement on Student Attitudes and Achievement

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THE EFFECTS OF TEACHER REINFORCEMENT ON STUDENT ATTITUDES AND ACHIEVEMENT

An Abstract of

A Thesis

Submitted

In Partial Fulfillment

of the Requirements for the Degree

Specialist in Education

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by

Ray Douglas McCollum

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ABSTRACT

This study examined the effects of teacher reinforcement on both reading achievement and students' attitudes toward school. It was hypothesized that students of high reinforcing teachers would achieve greater reading gains and would exhibit more positive attitudes toward school than students of lower reinforcing teachers.

Eight classrooms of second and third-grade students (N=139) and their teachers from a rural school district were involved in this study. The students were administered the reading section of the Metropolitan Achievement Test and the "Describe Your School" questionnaire during the fall of 1975. Subsequent to this pre-assessment, the eight teachers were observed by independent observers using the "Reinforcement Response Category System" (RRCS), which is an objective, low inference checklist which categorizes teacher responses to student behavior into one of twelve approval or disapproval categories. Based upon natural "gaps" in the teachers' ratio of reinforcing responses to non-reinforcing responses, the teachers were designated as high, medium, or low reinforcing teachers. The students were given a post-assessment during the spring of 1976 using the same measures utilized for the pre-test. Gains in reading and attitudes toward school

were analyzed to determine the effects of teacher reinforcement. In addition, group IQ scores of the students were analyzed to control for intelligence differences among the classes of students.

Results indicate that a significant inverse relationship exists between the degree of teacher reinforcement and reading gains of their students. No significant effects for teacher reinforcement were observed on student attitudes toward school. Intelligence scores did not significantly differ among classes. Thus, reading gains could not be attributed to differences in intelligence.

An inter-observer reliability coefficient of .96 was obtained on the RRCS, suggesting an objective, low inference measure of teacher responses to student behavior.

Results suggest that verbal reinforcement patterns exhibited by teachers may not play as positive a role in academic learning as commonly believed. It was hypothesized that the childrens' need for this type of reinforcement may need to be considered as an important factor; most children may have internalized the need for verbal praise by the time they reach school, and thus are operating on more intrinsic motivational factors. In addition, the socio-economic class of the population studied must be considered, as prior research has shown verbal praise to be ineffective with middle-class students. Further research with other populations is required to

assess the degree to which present results might be generalized to the typical classroom setting.

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This Study by: Ray Douglas McCollum

Entitled: The Effects of Teacher Reinforcement on Student Attitudes and Achievement

has been approved as meeting the thesis requirement for the Degree of Specialist in Education

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THE PROBLEM

Introduction

Teaching behavior, by its very nature, exists in a context of social interaction. The acts of teaching lead to reciprocal contacts between the teacher and the students and it has been proposed that the quality or the characteristics of the interaction affects the academic achievement and the attitudinal development of the students.

Since 1900, researchers have attempted to evaluate teaching performance. For the most part, results have proven unsuccessful. Marsh and Wilder (1954) concluded their review of research efforts during the period 1900 to 1952 with the statement:

> No single, specific observable teacher act has yet been found whose frequency or percent of occurrence is invariably and significantly correlated with student achievement . . . .

Past research efforts generally have not directed themselves toward the interpersonal relationship of teacher and student, but rather investigated the cognitive, impersonal characteristics of the teacher himself. Shannon (1940) reported that teachers who were rated excellent had higher general intellectual ability than did those who were rated average or failing. In addition, teachers rated

superior had a higher grade point average while in college.

The idea that factors other than those of a purely cognitive nature can materially affect learning has prompted many researchers to direct their attention toward investigating interpersonal dynamics in the classroom. Many researchers have found that interpersonal relations are an important aspect of classroom climate. Haggerty (1932) was one of the first to suggest that attempts to predict teaching success had generally failed to show significant results because a certain dimension of the teaching process--the relationship of students to their teachers--had been ignored.

Haggerty's position has been supported by others including Rogers (1962) who takes the strongest position of all when he proposed that the quality of the interpersonal relationship is the most important variable in determining teacher effectiveness.

Since 1952, the search to find teaching acts which are significantly and consistently correlated with positive student attitudes and achievement has been more successful, for the most part, because of the development of systems for analyzing classroom events. These systems, because they make possible the isolation of specific behaviors, are able to suggest implications for teacher training programs. Educational researchers must translate the research results into implications for teacher training, if applications to the classroom are to be made.

Statement of the Problem

At the present time there is little research investigating the specific teacher characteristic of frequency of use of reinforcement and how this characteristic affects both the academic achievement of students, and the students' attitudes about school. Specifically, the present study attempts to determine if the students of teachers who rate high in their use of positive reinforcement achieve greater academic gains and have more positive attitudes toward school than those students of teachers who rate low in this characteristic.

Hypotheses

The hypotheses being tested in the present study of teacher responses to student behavior are:

H_1- Those students of high positive reinforcing teachers will achieve significantly greater academic gains in reading than those students of low positive reinforcing teachers.

H_2- Those students of high positive reinforcing teachers exhibit more positive attitudes towards school than those students of low positive reinforcing teachers.

H_0- There is no significant difference between academic gains or attitudes toward school of students of high positive reinforcing teachers and students of low positive reinforcing teachers.

Importance of the Study

Contemporary researchers in education are vitally interested in improving the understanding of teachers'

influences on students' achievement, the ultimate product of the teaching effort. The behavior patterns of teachers are certainly an essential factor to be investigated if further understanding of teachers' effects on the behavior of their students is to be gained.

Rosenshine (1971) states that in comparison with the money spent on the training of teachers, on the development of instructional materials, on the development and promotion of educational innovations, and on the studies of human learning, there have been few well-designed studies of classroom interaction. The limited research done in this field usually concludes with a few paragraphs on "implications for teaching" but these implications are rarely implemented. Because of this lack of applied research in this area, there is a deficit in knowledge of the relationship between teacher behavior and student academic growth.

Teacher accountability has become an area of concern in contemporary education. Unfortunately, the means of determining accountability (i.e. the effectiveness of teachers) has not been discovered, mainly due to the lack of applied research in identifying significant teacher behaviors.

Researchers in behavior modification (Bandura, 1970, among others) have stressed the impact of consequences in determining the probability of the future occurrence of a specific behavior. They have stated that if a positive

consequence follows the emission of a behavior, the chances of that behavior occurring in the future are increased. By the same token, if the consequences following a behavior are neutral or negative, the chances of that behavior occurring in the future are decreased.

With the increasing acceptance of the behavioral explanation of classroom events, more specifically, the importance of the effect of consequences on a specific behavior, the need becomes apparent to study the reincorcement value of teachers' responses to student behaviors.

The ultimate gains of research in this area are effectively stated by Biddle (1964) who suggests that: ". . . the value of teacher behavior analysis lies in the relationship of the acquired data to the effectiveness of the teacher's instructional performance." In other words, to be worthwhile, the information gained from research in this area must find its way into teacher-training programs. Unfortunately, this has not happened in the past. According to Rosenshine (1971), current teacher education programs focus on training teachers to behave in pre-determined ways unrelated to the research findings gathered in this area thus far. Furthermore, Gazda (1970) states that the affective domain in teacher-pupil relations has been relatively ignored in teacher education. Smith (1971) states that teacher education programs must begin to place greater emphasis on behavior training in specific technical skills of teaching. Technical skills are comprised of

denotatable, specific teaching behaviors which are theoretically based on psychological learning theory and which are viewed as important for competent teaching regardless of subject matter. In addition, Smith states, they are skills which can be systematically trained.

The effect of training in human relations upon the classroom performance of elementary school teachers was investigated by Berenson (1971). Following training, supervisors rated this group of teachers significantly higher than the other groups in total competency, classroom behavior management, understanding children, and understanding the learning process. In addition, this group of teachers was significantly more indirect (i.e. democratic) in their approach to motivation and control. They also demonstrated greater use of positive reinforcement in relating to their students. Borg (1972) reports findings on the high acquisition and subsequent stability (four months to three years) of several technical behavioral skills which teachers learned through mini-course training.

Thus, it has been shown that training in human relations and in behavioral teaching does have an observable effect on teacher behavior. As stated previously, the task ahead is to incorporate research findings in the area of teacher-student interaction into the training programs of teachers. This study intends to present evidence of the importance of just one aspect of the total array of classroom behavioral dynamics--the reinforcement effects of

teachers on students' achievement. It is hoped that this research can direct teachers to an increasing awareness of this vital quality in the instructional process.

Assumptions

There are four important assumptions relevant to the value of this study. First, it is assumed that the reinforcement habits of the teacher do play an active enough role in the interaction between teacher and student to affect the achievement gains and attitudes of the students. This assumption is supported by prior research in this area (Flanders, 1970; Wright and Nuthall, 1970).

The second assumption is that the rating scale used to evaluate teachers' use of reinforcement is an effective and accurate measure of this characteristic. The scale used is an adaptation of both the Flander's Interactional Analysis System (1965) and the Approval and Disapproval Response List (Madsen and Madsen, 1970), both of which have been widely accepted and utilized to observe and measure classroom interactions.

Thirdly, it is assumed that the achievement measure used, specifically, the reading section of the Metropolitan Achievement Tests is an accurate measure of the achievement gains of the students.

Finally, the assumption is made that the scale "Describe Your School" (Hoyt, 1964) is an accurate measure of the students' feelings and attitudes about their school life.

Limitations of the Study

One of the factors limiting the generalizability of this study is that the sample is drawn from a population that would appear to be predominantly middle-class, white families in a rural Iowa community. In addition, the instruments used to measure teacher reinforcement, student achievement, and student attitudes may limit the generalizability due to their sensitivity.

Definition of Terms

Reinforcing. This term refers to the rewarding of a specific behavior so as to increase the probability of that behavior occurring again. The effects of non-verbal reinforcement, such as smiling and physical contact, will be assessed as well as verbal forms of reinforcement.

Reinforcing/non-reinforcing (R/N) ratio. This refers to the ratio of the total number of reinforcing or approving responses of the teacher to the total number of non-reinforcing or disapproving responses. The ratio will be calculated from the data obtained from the Reinforcement Response Category System (RRCS).

High-reinforcing teachers. The high-reinforcing teachers are those whose reinforcing/non-reinforcing (R/N) ratios fall in the upper thirty-three percent (approximately) of the teachers evaluated as measured by the RRCS.

Medium-reinforcing teachers. The medium-reinforcing teachers are those whose reinforcing/non-reinforcing (R/N) ratios fall in the middle thirty-three percent (approximately) of the teachers evaluated as measured by the RRCS.

Low-reinforcing teachers. The low-reinforcing teachers are those teachers whose reinforcing/non-reinforcing (R/N) ratios fall approximately in the lower thirty-three percent of the teachers evaluated as measured by the RRCS.

Achievement. Reading achievement is defined on the basis of Metropolitan Achievement Test reading scores.

Attitude toward school. This refers to the percentage of positive statements towards school derived from the childrens' responses on the "Describe Your School" questionnaire.

Chapter 2

REVIEW OF RELATED LITERATURE

Most past attempts to categorize teacher behaviors were high-inference measures, meaning that the items on the rating scales (e.g., clarity, warmth, empathy) required that an observer subjectively infer these constructs from a series of events. In low-inference measures, on the other hand, the items focus upon specific, denotatable, relatively objective behaviors (e.g., repetition of student ideas, use of praise) and the events are recorded as frequency counts. Although the most promising results have been obtained in studies in which teacher behavior was described in high-inference terms (Rosenshine, 1971), it is felt that studies utilizing low-inference measures more easily lend themselves to teacher-training programs.

A review of the literature related to this study necessitates a review of the two general strategies of measuring teacher behaviors mentioned above, and a discussion of specific low-inference techniques of assessment of teacher-student interaction.

Studies Using High-inference Measures

Ryans' (1960) classic study is probably the most

well-known and influential of the high-inference investigations. Ryans observed several qualities concerning the relationship between teacher behavior and student behavior in the classroom. Productive pupil behavior was related to the following teacher behaviors and characteristics: (1) understanding-friendly teacher behavior, (2) systematic-businesslike teacher behavior, (3) stimulating-imaginative teacher behavior, (4) a child-centered educational viewpoint, (5) emotional adjustment, and (6) favorable attitudes towards pupils and democratic classroom procedures.

Heilm, et al., (1960) found that children's achievements depend largely upon teacher personality and the interaction of such personalities with the personality of the child being taught. The achievement gains were adjusted for IQ scores and school differences. The study showed that, generally, self-controlled teachers with their limit-setting, ordering, and work-orientation obtained more total achievement gains than teachers classified as turbulent or fearful, whose main characteristics are vacillation and uncertainty.

Aspy and Hadlock (1967) found that pupils of teachers functioning at the highest levels of warmth, empathy, and genuineness demonstrated higher levels of academic achievement than did pupils of teachers functioning at the lowest levels. It was reported that, over the course of one academic year, the students of the highest level teacher gained an average of two and one half academic

years, while the students of the lowest level teachers gained an average of only six academic months. They also discovered that truancy was significantly related to the dimensions evaluated.

In a similar study involving 120 third-grade children and their teachers, Aspy (1969) found that the students of teachers functioning at high levels of empathy, congruence, and regard achieved at significantly higher levels than the students of teachers functioning at low levels of these qualities.

Christenson (1960) also found a positive relationship between the degree of teacher warmth and student achievement levels on measures of vocabulary and mathematics. The students of teachers communicating high levels of warmth scored higher than students of teachers communicating low levels.

White and Dekle (1966) found that feeling comfortable in the learning environment is related to higher motivation to learn and greater learning outcomes. In this study with fifth, sixth, and seventh grade students, only the factor of teacher warmth differentiated among different achievement groups. The high achievers perceived the teacher in a favorable light and the low achievers had unfavorable perceptions.

Other general teacher characteristics, in addition to warmth and empathy, have shown to be influential on student achievement. Ray (1971) found that teacher

ressentience, defined as a denigrating attitude based on an unconscious repression of envy toward others, has an effect on the achievement of their students in various learning areas. It was found that teachers who scored low in ressentience were generally more efficient than teachers who scored high, as measured by their students' achievement scores.

Teacher enthusiasm has been reported to be associated with high student achievement (Mastin, 1963). In addition, the students showed more favorable reactions to the enthusiastic teacher and to material that was presented with enthusiasm. The differences in student achievement and in attitudes were large and consistent.

Cumulative effects of teacher-offered facilitative conditions were investigated by Kratochvil, et al., (1969). The authors found that the students of the teachers with the highest levels of communication and discrimination obtained an average of twenty-two months academic growth, while the students of the lowest level teachers obtained an average of only nine months growth, both measured over a period of one academic year. The authors further established that while the high-level teachers had immediate positive effects upon pupil functioning, these effects tended to "wash-out" after a series of neutral or debilitating experiences with other teachers. In terms of a behavioral explanation, it is speculated that the students were no longer being reinforced

for behaviors they had exhibited while interacting with high-level teachers, and consequently, the result was extinction of the positive behaviors.

Studies Using Low-inference Measures

Studies utilizing low-inference measures have generally shown definite effects of teacher behavior on student achievement. As mentioned previously, these studies isolate specific, observable teacher behaviors and measure their effect on student achievement.

Praise has been shown to be an effective reinforcing agent on achievement of students. In a rather comprehensive study, Wright and Nuthall (1970) made tape recordings of seventeen teachers teaching a prescribed science lesson to third-grade pupils. Teacher behavior variables were identified and correlated with achievement test scores which had been corrected for pupil IQ and prior knowledge. Significant correlations were obtained between mean class achievement scores and six categories of teacher behaviors, one of which being the use of thanks and praise; saying "good" and thanking the pupil for his response were most clearly related to achievement.

The use of praise as a reinforcer has been shown to have a differential effect on various types of students. Thompson and Hunnicutt (1962) found that verbal praise and blame were equally effective as work achievement motivation on a cancellation test. The authors found that praise had

a positive effect upon introverts and blame was more effective with extroverts.

Fagot (1973) observed pre-school teachers and children during free-play periods in three different studies. In all three studies, the classes with the less directive, less critical teachers showed a higher rate of children's task behavior. Specifically, those teachers praised more, responded more to questions, and, surprisingly, gave less physical affection.

Social class differences have been shown to affect the efficacy of praise as a reinforcer. Zigler and Kanzer (1962) found verbal praise to be more effective in motivating lower class second-graders and reinforcers emphasizing correctness more effective with middle class students.

Student creativity in verbal responses, which is highly related to language skill development, was found to be related to the degree of teacher supportiveness by Turner and Denny (1969). Teachers scoring high on an author-developed scale measuring supportive, positive, and reinforcing behaviors tended to evoke original or creative verbal responses on the part of their students.

Praise, being a form of social approval, is considered to be a key reinforcing agent in the development of achievement motivation in children by Crandall, et al., (1960). When there is consistency in adult approval or disapproval of achievement behavior, the child forms a

feeling that he can control his own reinforcement and develops internal reinforcement control. In the absence of this consistency, the child fails to associate social approval with his own behavior. In this case, the child will not develop a strong achievement motivation.

Criticism, as related to achievement, has been investigated by several reseachers. Vakil (1971) found that pupils with non-rejective teachers (i.e. teachers who used high encouragement and low criticism) learned arithmetic computation better than did pupils of non-integrative or rejective teachers. Wright and Nuthall (1970) also found that criticism was negatively related to achievement. Perkins (1965) found that the more intense the teacher criticism, the greater negative effect on student achievement. Thus, it can be concluded that teachers who use extreme amounts or forms of criticism usually have classes which achieve less in most subject areas. It was also shown that mild forms of criticism or control cause no significant negative effect on student achievement. Such mild forms include telling a student that his answer was incorrect or providing academic direction. Thus, there is no evidence to support a claim that teachers should avoid telling a student he was wrong or should avoid giving academic directions.

Closely related to the teacher use of praise and criticism is the indirectness-directness (I/D) ratio of teacher behaviors. Indirectness is defined as the combined

frequencies of teacher behavior labeled: (1) acceptance of student feelings, (2) praise or encouragement, and (3) use of student ideas. Studies in this area have generally used the Flanders Interactional Analysis System (1965) as a measure of this variable. Significant correlations between the ratio of indirect and direct behaviors and student achievement were obtained in several studies, most notably Flanders (1970) and La Shier (1970). Soar (1968) measured directness-indirectness using a revised I/D ratio of the Flanders system. The measure was a ratio of the teacher behaviors of accepting feeling, praising, or accepting ideas to those of directing or criticizing. It considered only those teacher behaviors which immediately followed pupil talk. Results indicated a positive correlation between degree of teacher indirectness and an increase in vocabulary and reading in students.

Samph (1974) studied the influence of the teacher's verbal behavior on language skill development and attitudes of below-average achievers. The sixth-grade students in this study were all of average intellectual ability, but were underachieving by two or more years in language skills. Results indicated that the below-average achievers with teachers having high I/D ratios (Flanders, 1965) showed significantly greater gains in language skills than did the below-average achievers with teachers having low I/D ratios. In addition, the students taught by the high I/D ratio teachers developed more positive attitudes

towards their teacher.

The above studies and the vast majority in this area generally measure the effect of the I/D ratio on achievement for the duration of a single academic year. Powell (1968), on the other hand, investigated the relationship between teacher verbal behavior and pupil achievement over a three-year period with one teacher, and over another three-year period with the same pupils under a different teacher. Using the Flanders (1965) system as a means of measurement, Powell found that indirect teaching fosters pupil achievement significantly more than does direct teaching.

Several studies have shown that the teacher's use of student ideas is highly reinforcing and is significantly correlated with measures of student achievement. This variable can be further divided into five sub-categories of behaviors to include acknowledging, modifying, applying, comparing, and summarizing what was said by a student. Flanders (1970) and Wright and Nuthall (1970) both found positive correlations between the frequency of use of student ideas and student achievement. Emmer (1968) also concluded that teachers who increase their use and acceptance of student ideas will cause increased student interaction and achievement gains. These results are easily explained by reinforcement theory.

Several researchers have found results inconsistent with those reported thus far. Basically, these studies

involved older subjects, specifically, junior high school and above. Mason (1970) found little, if any, relationship between the behavioral style of teaching, as measured by Flanders' system, and the quality of student-teacher interpersonal relationships. His study involved high school juniors and seniors and the author offers the explanation that the relationship between the quality of teacher-student relationship and teaching style becomes decreased as student age increases. In a study involving junior high school physical education classes, Melograno (1972) found that teacher personality had no effect on student achievement on a unit of instruction in basketball. Teacher personality, defined by the indirect-directness ratio, was determined by the Flanders Interactional Analysis System. Lewis, et al., (1965) tested the hypothesis that students who perceive a relationship with their teachers that is in the direction of an ideal psychotherapeutic relationship (i.e. supportive, facilitative) will make greater gains academically than those students who do not perceive this relationship. Results confirmed the hypothesis for a sample of sixth-graders, but not with ninth-graders. Ryans (1960) also concluded that pupil behavior appears rather closely related to teacher behavior in the elementary grades, but secondary students' behavior seems almost unrelated to teacher behavior in the classroom.

Trinchero (1974) did a longitudinal assessment of teacher's use of positive reinforcement where the criteria

was the achievement of ninth-grade students. Results were found to be not significant and the author concluded that a teacher who changes his style to a more reinforcing one will not significantly affect the achievement of the same ninth grade students.

The frequency of teacher reinforcement of a student's responses appears to be related to the student's grade placement. Friedman (1973) obtained frequency counts of teacher reinforcement of spontaneous verbal behavior of students. Results show that student verbalizations significantly increased over the primary grades and sharply declined at the seventh-grade level, indicating that elementary students are more receptive to teacher reinforcement as opposed to secondary students.

Assessment Techniques of Teacher-Student Interaction

Low-inference measures of teacher behaviors have generally followed the lead of Flanders and the authors have attempted to categorize teacher-student interaction. Flanders (1965) has developed a form combining seven categories of teacher behavior with three categories of pupil response. Flanders states that the immediately preceding pupil behavior is a situation to which the teacher is responding, while pupil behaviors serve as the criterion variable for studying the effects of teacher behavior. The method of observation involves the determination of which of the ten categories of interaction

is operating at a given point in time. These determinations are made every three seconds, and at the conclusion of the observation period, the percentages of tallies in each of the categories is determined and a diagram of the interaction is composed.

Modifications of the Flanders system have been made by several researchers, including French (1968) who devised an interaction system which used the ten verbal categories of the Flanders system, and added the appropriate non-verbal dimensions for each category. Soar (1968) used a revised indirectness-directness ratio and considered only those teacher behaviors which immediately followed pupil talk.

Amidon and Hunter (1966) have devised a five-category system of verbal interaction with a more complete teacher-response category than the Flanders model. As with the Flanders system, tallies are made every three seconds.

Medley and Mitzel's (1958) Observation Schedule and Record attempts to study general classroom environment in terms of emotional climate (warmth to hostility), verbal emphasis (degree to which verbal activities predominate), and social organization (amount of social grouping and pupil autonomy). These areas are evaluated by observation of the teacher's verbalizations, gestures, and facial expressions during limited time-sample periods.

An instrument more limited in scope is Withall's

Climate Index (1949). The Index is the ratio of learner-centered statements to total teacher statements during the observation period. Withall developed seven categories of teacher statements, varying from learner-centered to teacher-centered.

The research in this area generally indicates a definite influence of teacher behavioral characteristics on student achievement. Although the studies using high-inference measures have obtained the most promising results, the need for further research using low-inference measures similar to the present study is apparent if those specific, observable teacher behaviors which are influential are to be identified.

Chapter 3

DESIGN OF THE STUDY

Procedure

The subjects involved in this study were drawn from a population of second and third grade students attending public schools in the Mediapolis, Iowa school system. The Mediapolis system operates four separate attendance centers which follow an identical curriculum and daily schedule.

The most recent Lorge-Thorndike Intelligence Test group IQ score was gathered for each student from the eight second and third grade classrooms in the Mediapolis district. This took place during the eighth week of school in the fall of 1975. At that time, the students were administered the reading section of the Metropolitan Achievement Test (MAT). In addition to the reading pre-test, the students were also administered the "Describe Your School" (DYS) inventory (Hoyt, 1964; see Appendix C). This affective measure yielded information relative to the students' feelings and attitudes towards school. In cases where the students had difficulty in reading the questions, they were aided by the examiner, or alternatively, their scores were based upon the percentage of

the less than fifty questions they did answer without difficulty. The latter was the procedure for determining the score if one or two items were left blank by the student.

The teachers of these eight classrooms were observed and their responses to student behavior were recorded and analyzed to determine the extent to which they responded in a positively-reinforcing manner. On the basis of the data gathered, a reinforcing/non-reinforcing (R/N) ratio was calculated for each teacher. Three groups were drawn from the obtained R/N ratios. The first group consisted of the teachers whose ratios were the highest, and were called the high-reinforcing teachers. The second group consisted of those teachers whose R/N ratios fell in the middle-range, and were called the medium-reinforcing teachers. The third group, which was called the low-reinforcing teachers, was composed of the teachers whose R/N ratios were the lowest. The assignment of teachers into one of the three groups was based on natural "gaps" between the R/N ratios of the teachers, and no group was composed of more than three, or less than two members.

Post-assessment measures were administered to the second and third grade students four weeks prior to the end of the 1975-76 school year. The reading section of the Metropolitan Achievement Tests, and the "Describe Your School" inventory were again the assessment means

utilized.

Experimental Design

An adaptation of the nonequivalent control group design (Campbell and Stanley, 1963) was used in this study as randomized assignment of subjects into treatment groups was not possible. In diagram form, the experimental design is as follows:

(1)	O	X+	O
(2)	O	X	O
(3)	O	X-	O

For illustration purposes, the treatment, or X, is considered to be the effect of the degree of reinforcement exhibited by the teachers on the academic achievement and attitude of the students, based on the pre and post-assessments, designated by the O's.

Although randomized assignment to treatment groups is not feasible, effective control is possible as the groups are highly similar (i.e. same age and grade; students are from the same school system). This design controls for the possible sources of invalidity of history, maturation, testing, and instrumentation. Regression as a possible internal validity problem is avoided by not selecting extreme scores from the pre-test for inclusion to the study.

Instruments Used

Reading achievement was measured by the reading section of the Metropolitan Achievement Tests, Primary II battery. The manual reports a split-half reliability coefficient of .93 for the reading test for third grade pupils. The standard error of measurement in terms of grade equivalent scores for the reading section is .3. Quantitative evidence of validity is not available due to the fact that content validity is dependent upon the individual reading curriculum of the particular school.

The Lorge-Thorndike Intelligence Test, Multi-Level Edition was used to measure intelligence. As mentioned, this measurement was necessary to control for intellectual differences as a possible source of internal invalidity. The manual reports alternate form reliabilities for the non-verbal and verbal sections of .845 and .912, respectively. The Lorge-Thorndike has also shown relatively high criterion validities of .62 and .72 for the verbal and non-verbal sections, respectively, when correlated with the individually administered Wechsler Intelligence Scale for Children.

The instrument used to measure and record the teacher's use of reinforcing responses, the Reinforcement Response Category System (RRCS), is an adaptation of the Flanders Interactional Analysis System (1965) and the Approval and Disapproval Response List (Madsen and Madsen, 1970). It is composed of ten categories which clearly

identify and measure all possible response forms, in terms of reinforcement value. (See Appendix A) The RRCS is a low-inference measure, i.e. the behaviors measured are observable, do not have to be inferred, and are recorded as frequency counts.

The "Describe Your School" (DYS) questionnaire (Hoyt, 1964) was used to measure the students' attitudes and feelings regarding their school life. (See Appendix C) The score obtained from the DYS indicates the percentage of positive statements made by the student. Hoyt and Cook (1959) report split-half reliability coefficients of .74, .79, .86, and .90 on the DYS for 102 elementary-aged children.

Method of Recording Data

Recording the student-teacher interaction with the RRCS system is done by making a slash mark in the space provided next to the appropriate teacher-response category. (See Appendix B) A recording is made each time a teacher verbally or non-verbally responds to a student's behavior. At the completion of the rating session, the category totals were computed and the frequencies were recorded on the Observation Form. The R/N ratio, calculated at the completion of all of the rating sessions, was based on the total frequencies obtained.

The observers were paraprofessional psychometrists employed by the Area Education Agency #16. The observers were not told of the research hypothesis, so as to prevent

biased rating. They were randomly assigned to the thirty-two observation periods; in addition, six randomly selected sessions involved simultaneous independent ratings by two observers for the purpose of checking inter-observer reliability.

Each of the eight teachers evaluated were observed for four one-hour periods randomly spread over eight weeks between January and March, 1976. In addition, each teacher was observed at four different intervals throughout the school day, i.e. early and late morning, early and late afternoon. This was done in order to obtain an accurate evaluation of the teachers' reinforcement patterns.

To prevent the teachers from changing their behavior as a result of the presence of the observers, the teachers were told that the observers were completing an exercise involving the recording of teacher-student interaction.

The three observers were thoroughly trained beforehand in the method of recording teachers' responses, and were provided practice time in categorizing sample responses. Mastery of the recording procedure was required before actual classroom observations were made.

Chapter 4

RESULTS AND DISCUSSION

Results

The basic analysis of the data was accomplished by investigating differences in the mean gains between the pre and post-assessments, both in reading and attitudes toward school. Double classification analyses of variance (hereafter also referred to as ANOVA) were used to test the statistical significance of differences between groups. Additionally, data is presented regarding intelligence differences between the groups, R/N ratios of the observed teachers, inter-observer reliability, and an analysis of the teachers' response habits as recorded on the RRCS.

Teacher Reinforcing/Non-Reinforcing (R/N) Ratios. As stated in Chapter 3, the assignment of teachers into high, medium, and low reinforcement groups was based on natural "gaps" in obtained R/N ratios. The R/N ratio was determined by dividing the total number of reinforcing responses by the total number of non-reinforcing responses, based on the four observation sessions. Table 1 presents the breakdown of the obtained R/N ratios as they pertain to assignment of teachers into reinforcement conditions.

Table 1

Reinforcement/Non-Reinforcement (R/N) Ratios and the Assignment of Teachers to Reinforcement Conditions

High Reinf	Medium Reinf	Low Reinf
Teacher 1 R/N ratio: 16.75	Teacher 4 R/N ratio: 3.08	Teacher 7 R/N ratio: 0.68
Teacher 2 R/N ratio: 5.64	Teacher 5 R/N ratio: 1.25	Teacher 8 R/N ratio: 0.20
Teacher 3 R/N ratio: 5.37	Teacher 6 R/N ratio: 1.17	

Inter-observer reliability. Six randomly selected observation sessions involved simultaneous independent ratings by two observers for the purpose of ascertaining inter-observer reliability. A correlation coefficient of .96 was obtained indicating a very high degree of consistency between observers. Furthermore, this indicates that the RRCS is definitely a low-inference measure.

Achievement. The hypothesis relating to reading achievement (H_1) stated that students of high reinforcing teachers will achieve significantly greater academic gains in reading than those students of low reinforcing teachers. The analysis of the data leads to a rejection of hypothesis one. Table 2 indicates the mean reading gains expressed in terms of grade equivalents and standard deviations of the second and third grade students in relation to the

teacher reinforcement conditions.

Table 2

Means and Standard Deviations of Reading Gains of Second and Third Grade Students of High, Medium, and Low Reinforcing Teachers

Grade 2	N	Mean	Standard Deviation
High Reinforcing	15	0.440	0.521
Medium Reinforcing	33	0.506	0.360
Low Reinforcing	16	0.594	0.355
Total Grade 2	64	0.512	0.399
Grade 3	**N**	**Mean**	**Standard Deviation**
High Reinforcing	43	0.135	1.065
Medium Reinforcing	24	0.500	1.255
Low Reinforcing	8	1.387	1.606
Total Grade 3	75	0.385	1.236
Combined Grade 2 & 3	**N**	**Mean**	**Standard Deviation**
High Reinforcing	58	0.2138	0.9594
Medium Reinforcing	57	0.5035	0.8493
Low Reinforcing	24	0.8583	1.0069

An analysis of Table 2 indicates that an inverse relationship exists between teacher reinforcement and student reading gains. This finding is evident in both grades, although it appears to be of greater significance in grade three. The significance of this relationship was tested by a two-way analysis of variance and results are presented in Table 3.

Table 3

Analysis of Variance of Reading Gains by Teacher Reinforcement and Grade

Source	SS	df	MS	F	Signif of F
Main Effects					
Reinf	685.611	2	342.805	4.079	0.019
Grade	1.883	1	1.883	0.022	0.999
2-Way Interactions					
Reinf Grade	437.717	2	218.858	2.604	0.076
Error	11178.855	133	84.052		

An analysis of Table 3 reveals a significant ($p < .02$) difference between the reading gains of the students of the three reinforcement groups. There is the absence of a significant difference in reading gains by the students in terms of grade placement. Table 3 also indicates the absence of a significant interaction between grade and reinforcement condition.

An application of the Multiple Range Test (Duncan

procedure) to the combined grade 2 and 3 means (see Table 2) reveals a significant ($p < .05$) difference between the three reinforcement conditions in terms of mean reading gains. This procedure substantiates the significance of the inverse relationship between teacher reinforcement and gains in reading.

Table 4

Pre and Post-Reading Means and Standard Deviations by Reinforcement Condition

Reinforcement Condition	Pre-Test Reading			Post-Test Reading		
	n	Mean	Standard Deviation	n	Mean	Standard Deviation
High	58	3.8172	1.2227	58	4.0310	1.1583
Medium	57	3.4263	1.2032	57	3.9298	1.2333
Low	24	3.3708	0.9844	24	4.2291	1.3636

The data in Table 4 and subsequent statistical analysis serves to substantiate that there was no significant difference in pre-reading scores of students in the three reinforcement conditions.

Student Attitudes Toward School. The hypothesis relating to student attitudes toward school (H_2) stated that students of high positive reinforcing teachers exhibit more positive attitudes toward school than those students of low positive

reinforcing teachers. The analysis of the data leads to a rejection of this hypothesis. Table 5 indicates the mean gains in DYS scores expressed in terms of the percentage of positive statements toward school and accompanying standard deviations of the second and third grade students in relation to the teacher reinforcement conditions.

Table 5

Means and Standard Deviations of DYS Gains of Students of High, Medium, and Low Reinforcing Teachers

Grade 2	N	Mean	Standard Deviation
High Reinforcing	15	-0.800	6.868
Medium Reinforcing	33	-2.576	11.750
Low Reinforcing	16	-4.500	6.861
Total Grade 2	64	-2.641	9.670
Grade 3	**N**	**Mean**	**Standard Deviation**
High Reinforcing	43	-0.256	14.938
Medium Reinforcing	24	5.083	10.261
Low Reinforcing	8	1.125	5.890
Total Grade 3	75	1.360	13.013
Combined Grade 2 & 3	**N**	**Mean**	**Standard Deviation**
High Reinforcing	58	-0.3966	13.2691
Medium Reinforcing	57	0.6491	11.6917
Low Reinforcing	24	-3.3750	6.6255

Although the gains are negative in Grade two, the negative gains are greater for the low reinforcement group than for the high reinforcement group. The same was true for Grade 3, although a positive gain was obtained by the students of the medium reinforcing teacher. The significance of these relationships was tested by a 2-way ANOVA and results are presented in Table 6.

Table 6

Analysis of Variance of DYS Gains by Teacher Reinforcement and Grade

Source	SS	df	MS	F	Signif of F
Main Effects					
Reinf	282.445	2	141.222	1.054	0.353
Grade	560.917	1	560.917	4.186	0.040
2-Way Interactions					
Reinf Grade	318.215	2	159.108	1.187	0.308
Error	17821.129	133	133.993		

An analysis of Table 6 reveals a non-significant relationship between teacher reinforcement and DYS gains. However, a significant ($p < .05$) difference does exist between DYS gains and grade placement, with the Grade 3 students displaying a gain in DYS scores, while the Grade 2 students exhibit a decrease in DYS scores from pre to post-assessment. Table 6 also indicates the absence of a significant interaction between grade and reinforcement

condition.

As gains in DYS scores did not differ between reinforcement conditions, specific DYS pre and post-scores did not differ in terms of reinforcement condition. This data is presented in Table 7.

Table 7

Pre and Post-DYS Means and Standard Deviations by Reinforcement Condition

Reinforcement Condition	Pre-Test DYS			Post-Test DYS		
	n	Mean	Standard Deviation	n	Mean	Standard Deviation
High	58	74.2931	13.2691	58	73.8965	11.1083
Medium	57	76.8070	11.6917	57	77.4561	10.0447
Low	24	78.8750	9.5266	24	75.5000	10.6730

The data in Table 7 and subsequent statistical analysis serves to substantiate that there was no significant difference in pre-DYS scores of students in the three reinforcement conditions.

Intelligence. In order to avoid contamination of the results due to intelligence (IQ) differences between grade levels or reinforcement conditions, group IQ scores for the students were analyzed to ascertain the existence of such differences. Table 8 presents means and standard

deviations of group IQ scores of the three reinforcement conditions.

Table 8

Means and Standard Deviations of Group IQ Scores (Lorge-Thorndike) in Terms of Reinforcement Condition

Reinforcement Condition	N	Mean	Standard Deviation
High Reinforcing	52	112.5577	12.3756
Medium Reinforcing	55	115.4909	10.2033
Low Reinforcing	23	115.3043	12.4917

As can be seen by the data in Table 8, there does not appear to be a significant difference in IQ levels between groups. An ANOVA was performed to determine the significance of relationships between IQ and grade placement and reinforcement condition. Results are presented in Table 9.

Table 9

ANOVA of IQ Scores In Terms of Reinforcement Condition and Grade Placement

Source of Variation	SS	df	MS	F	Signif of F
Main Effects					
Reinf	297.184	2	148.592	1.217	0.299
Grade	38.946	1	38.946	0.319	0.999
2-Way Interactions					
Reinf Grade	1689.437	2	844.719	6.920	0.002
Error	15136.848	124	122.071		

An analysis of the data presented in Table 9 reveals no significant difference in intelligence levels in terms of grade placement or reinforcement condition, although a significant interaction effect is observed. Therefore, IQ differences can be ruled out as an explanation for pre to post-test gains in reading or DYS scores.

Table 10

Frequencies and Percentages of Teacher Responses on the RRCS by Reinforcement Condition

RRCS Response Category[a]	Teacher Reinforcement Condition		
	Low	Medium	High
Verbal Reinf	14(16%)[b]	144(48%)	109(51%)
Non-Reinf	32(36%)	83(28%)	15(7%)
Phys. Express. Reinf	9(10%)	42(14%)	73(34%)
Non-Reinf	18(21%)	18(6%)	9(4%)
Phys. Contact Reinf	6(7%)	10(3%)	7(3%)
Non-Reinf	9(10%)	3(1%)	2(1%)

[a]Examples of Tangible Rewards and Activities - Privileges were not observed and, therefore, are not included in this table.

[b]Figures in parentheses represent the percentage of responses in a given RRCS category as compared to the total number of responses observed of the given teacher reinforcement condition.

Analysis of RRCS data. Table 10 presents the frequencies of responses by RRCS category of the teachers in the three reinforcement conditions. An analysis of this table reveals a high percentage of teacher responses in the verbal category, both in the reinforcing and non-reinforcing mode of responses. The fewer total responses in the low reinforcement condition is due to the fact that this group was composed of only two members, as compared to three members in the high and medium reinforcement conditions.

Discussion

An examination of the present data indicates that an inverse relationship exists between the frequency of teacher reinforcement and gains in reading achievement. Thus, both hypotheses H_1 and H_0 are rejected. This leads to a further conclusion that teachers whose main concern is the teaching of reading with a concern for the use of reinforcement as a motivational technique, are more effective teachers of reading. This finding seems to be in direct conflict with some behaviorist learning theorists who insist that certain behaviors, in this case reading, are most effectively taught by reinforcement of successive approximations to the final complete act.

An explanation of the results of the present study must consider the need for reinforcement by the second and third graders. The basic attitudes and values

are determined and set into the personality during the preschool years as a result of parent-child interaction. There is little question that the rewarding of successive approximations plays an important role in teaching new behaviors during this stage of development. By the time most children reach the age of seven or eight, the need for verbal praise as a reinforcer may have decreased as the child has internalized this need and is operating on a more intrinsic level. This is somewhat analogous to Allport's principle of functional autonomy (Sahakian, 1965) which states that motives have a specific point of origin but as the individual matures, the bond is broken and the new behavior is functionally independent of the original specific motivators. Relating this principle to the present study, it is suggested that the elementary school students' need for reinforcement in the form of teacher praise is not of the degree as proposed in the hypotheses, at least for the population studied.

The socio-economic level of the population may offer further explanation to the obtained results. Zigler and Kanzer (1962) found verbal praise to be more effective in motivating lower-class second-graders and reinforcers emphasizing correctness more effective with middle class students. Since the majority of the population in this study would appear to be middle-class, it is speculated that the verbal reinforcer of praise would not be as

effective as specific reinforcement of academic progress, as the children have internalized the need for verbal reinforcement. An analysis of Table 10 indicated that a significant majority of the reinforcement responses by the teachers is of the verbal type.

Further explanations of the results must also be considered, as certain limitations are apparent. It was noted that the N of students of the low reinforcing teachers was only 24, as compared to an N of 57 for students of medium reinforcing teachers, and an N of 58 for students of high reinforcing teachers. This small N could have affected the overall results, especially in Grade 3 where the reading gains of the eight students was quite varied. (See Table 2).

In calculating the R/N ratios of the eight teachers, a high degree of consistency of ratios within a specific school was noted. This leads to the speculation that there may be evidence that teachers conform to a general mode of responding to students that is specific to an individual school. Further research would be necessary to confirm this hypothesis and it may be applicable only in small rural schools as was the case in the present study. The consideration of this hypothesis leads to interesting possibilities: that children progress through the grades adapting themselves to a particular style of teaching, and perhaps there is a point when the children no longer respond to that style. Again, further research is necessary.

A further analysis of the R/N ratios (see Table 1) of the teachers in the low reinforcing category reveals that these teachers could not be characterized as overly-critical or punishing. Perkins (1965) found that mild forms of criticism or control cause no significant negative effect on student achievement. A possible explanation of the results of the present study is that the low reinforcing teachers were not negative or critical of their students to the degree to cause a significant effect on their academic achievement. It is further speculated that the low-reinforcing teachers, because of the low percentage of positive responses, (see Table 10) may have as their main objective the cognitive domain of education, with a lesser concern with the affective state of their students. Based upon the reading gains of their students, it is somewhat understandable why this orientation is held by these teachers.

Rosenshine (1971) has stated that the most promising results thus far have been obtained in studies in which teacher behavior was described in high inference terms. The present study would seem to support the finding that low-inference measures have not effectively isolated specific, objective teacher behaviors which relate to student achievement. Although the RRCS has displayed a high level of inter-observer reliability, the validity of this instrument is yet to be established.

The analysis of Tables 5, 6, and 7 reveal the

absence of a significant difference in DYS gains between the three reinforcement conditions. In fact, the data indicates a general decrease in DYS scores from pre to post-assessment. The post-test scores may be reflecting a generalized "end-of-the-year" dislike toward school in the anticipation of summer vacation and a new teacher the following fall. Thus, on the basis of the obtained data, hypothesis H_2 is rejected and hypothesis H_0 is accepted as no significant difference exists between teacher reinforcement and students' attitudes toward school.

The same conclusion which was offered as an explanation for the inverse reading-reinforcement relationship, namely, the children's need for teacher reinforcement may also be relevant in explaining the findings concerning the students' attitudes toward school. Specifically, the results indicate the reinforcement habits of the teacher are not related to the students' positive attitudes toward school. Therefore, the student's need for this type of reinforcement must again be questioned. Although no difference in DYS gains existed between students of different reinforcement conditions, a significant difference in terms of grade placement was observed. Grade 3 students exhibited an over-all positive DYS gain attributable mainly to the significant gain of the students of medium reinforcing teachers. Second-grade students, on the other hand, exhibited an

over-all negative gain in DYS scores from pre to post-assessment. (See Table 5). The statistical significance of this relationship was established. (See Table 6). It could be concluded that the third grade students had a more positive attitude toward school than did the second grade students. A further analysis of Table 5 reveals an extreme difference in means of the third grade students. This variability would tend to limit the generalizability of the aforementioned conclusion.

Implications for future research. The present study lends itself to directions for further research. The differential influence of teacher reinforcement on the independent variables of sex, age, achievement level, and socio-economic level may produce further understanding of the general area of teacher personality effects on learning. Furthermore, in order to fully investigate the aforementioned internalization of reinforcement explanation, it would be necessary to gather data on parental child-rearing techniques to determine its relationship to the effects of teacher reinforcement.

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APPENDIX A

REINFORCEMENT RESPONSE CATEGORY SYSTEM

Approval Response Categories

I. Verbal

Degree to which teacher emits verbalizations directed to pupil(s) which indicate approval, praise, or confirmation of pupil's response. These verbalizations encourage or approve of pupil's behavior and express pleasure by teacher.

Example: *okay; fine; good; right; excellent; great; you're good; right on; you're doing well; I like you; thank you; that's nice; that's fine; correct; perfect; wonderful; you did very well; etc.

Note: *Count okay only when teacher emits word immediately following (i.e., within one second) pupil's observable behavior.

This category also includes "if-then" statements of positive consequence which involve a verbal reward. For example, "If you do this, then I'll really think you're smart."

II. Physical Expressions

Degree to which teacher exhibits a facial or bodily expression of approval toward a specific pupil's response. These actions encourage or approve a pupil's behavior and express pleasure by the teacher.

Example: smiling, winking, nodding, laughing, clapping hands, signaling O.K., widening eyes, whistling, etc.

III. Physical Contact

Degree to which a teacher exhibits physical contact with pupil(s) which promotes contentment, comfort or care of the pupil.

Count one discrete unit of contact when teacher terminates contact (i.e., stops touching pupil).

Examples: lightly touching (any body part), holding hand or arm lightly (includes shaking hand), patting, embracing (arms around pupil)

IV. Tangible Rewards

Degree to which teacher delivers to the pupil a concrete, tangible object as a reward for a certain behavior. These objects are given to the pupil so as to encourage or approve of the pupil's behavior and express pleasure by the teacher.

Examples: pencils, blocks, poker chips, plastic tokens; any form of food such as popcorn, candy, or raisins, etc.

This category also includes "if-then: statements where a tangible reward is involved. For example, "If you do this, I'll give you a token."

V. Activities and Privileges

Degree to which teacher rewards a specific behavior by granting the student a privilege or allows him to participate in a certain activity.

Examples: allowing the student to lead the group; having the student help the teacher; allowing the student to help the other students in an academic task, etc.

This category also includes "if-then" statements where privileges are involved. For example, "If you do this, I'll let you be first in line today."

Disapproval Response Categories

I. Verbal

Degree to which teacher emits verbalizations directed to pupil(s) which indicate disapproval of or displeasure with pupil's behavior. These verbalizations may disrupt pupil's behavior, and are defined as punitive demands or criticism, or verbal punishers.

Examples: That's wrong; don't do that; quiet down; stop talking; be still; did I call on you; you're wasting time; stop that; you'd better not do that; I don't like that; shut up; settle down; dummy; stupid; wipe that look off your face; that's not nice; what did I tell you to do; get busy right now; you're not doing what I told you to do; would you like to get paddled; you go to the office, etc.

Also includes "if-then" statements of threat when they are similar to the following: "If you keep doing that, you'll have to stay after school"; go to the principal's office, etc.

II. Physical Expression

Degree to which teacher exhibits a physical expression or movement directed toward pupil(s). The expression indicates disapproval of the pupil's behavior.

Examples: frowning; shaking finger or fist; staring; shaking head; pointing finger, etc.

III. Physical Contact

Degree to which teacher exhibits physical contact with pupil(s) which disrupts or inhibits pupil's behavior.

Examples: forcibly holding; forcibly dragging or pulling; grabbing pupil; pushing into position; shoving; shaking; slapping or hitting, etc.

IV. Tangible Rewards

Enactment of teacher of taking away a previously earned tangible reward from a student as a form of punishment.

Example: A teacher takes away an M&M for missing a question in the reading group. The M&M was previously earned by the student for a correct response.

V. Activities and Privileges

Disapproval concerning activities and privileges constitutes various degrees of deprivation. It is the enactment of the teacher of removing pupil's rights-status, or privileges; depriving the student in the classroom of some privilege; withholding pupil's playtime; keeping in for recess; giving extra work, etc.

This category also includes isolation forms of punishment. Examples: sitting pupil in corner, removing pupil from classroom, sending pupil to office, etc.

APPENDIX B

RRCS OBSERVATION FORM

Teacher:_____ Date:_____

Observer:_____ Time:_____

APPROVAL RESPONSES	DISAPPROVAL RESPONSES
Verbal	Verbal
Physical Expression	Physical Expression
Physical Contact	Physical Contact
Tangible Rewards	Tangible Rewards
Activities and Privileges	Activities and Privileges

APPENDIX C

DESCRIBE YOUR SCHOOL

C.T. Hoyt
(Minnesota Test Publishers, 1964)

Directions

The questions on this sheet ask you to tell which things you like or do not like about your school. Please answer them by making a circle around the YES or NO for each question. Do not stop long enough to think about any one question. If any one seems hard, go on to the next question and come back to it later. There are no right or wrong answers here. The answer you mark should tell just how you feel or think about the question.

How old are you? _____

What is your grade? _____

Are you a boy or a girl? _____

YOUR NAME _____

YOUR SCHOOL _____

1. Is most school work interesting? . . . . . Yes No
2. Do you feel important in school? . . . . . Yes No
3. Do you feel you lose out if you miss school? . . Yes No
4. Do you like school?. . . . . Yes No
5. Do you think your teacher likes the games you play?. . . . . Yes No
6. Are you often unhappy in school? . . . . . Yes No
7. Are you sometimes permitted to help others with their work? . . . . . Yes No

8. When things are funny, does your teacher laugh also? . . . . . Yes No

9. Is your teacher usually kind to you?. . . . . Yes No

10. Is it easy for you to get help in school? . . . Yes No

11. Are pupils often made to stay in for recess or after school?. . . . . Yes No

12. Do most children in your room try to understand before they ask questions?. . . . . Yes No

13. Do you like school most days? . . . . . Yes No

14. Are you praised when you do good work?. . . . . Yes No

15. Are you scolded when you do not know something? Yes No

16. Is the whole class often punished when only one or two pupils are to blame? . . . . . Yes No

17. Is your school room a happy place?. . . . . Yes No

18. Is most school work explained so you can understand? . . . . . Yes No

19. Are the children in your room nearly always treated fairly? . . . . . Yes No

20. Are the children in your room allowed to ask questions?. . . . . Yes No

21. Do most children in your room like to stay away from school? . . . . . Yes No

22. Does your teacher keep her promises?. . . . . Yes No

23. Do you like school very much? . . . . . Yes No

24. Do you like to stay out of school?. . . . . Yes No

25. Do you think your teacher likes you?. . . . . Yes No

26. Does it seem that you always do poor work?. . . Yes No

27. Do you get help when you do not know something? Yes No

28. Do you often have too much homework?. . . . . Yes No

29. Do you enjoy school?. . . . . Yes No

30. Are you proud to be in your school room group?. Yes No

31. Do you like your teacher? . . . . . Yes No

32. Are you invited to ask questions? . . . . . Yes No

33. Do you like to talk to your teacher alone?. . . Yes No

34. Are you afraid to ask questions?. . . . . Yes No

35. Are most school days happy ones for you?. . . . Yes No

36. Are pupils punished in front of others? . . . . Yes No

37. Do you sometimes talk and joke with your teacher?. . . . . Yes No

38. Are you often scolded in school?. . . . . Yes No

39. Are you told when you do good work? . . . . . Yes No

40. Do you help decide what the class does? . . . . Yes No

41. Are you often bossed in school? . . . . . Yes No

42. Are your lessons explained well?. . . . . Yes No

43. Are the children scolded often? . . . . . Yes No

44. Are you scolded for mistakes in your work?. . . Yes No

45. Is there always something wrong with your work? Yes No

46. Does your teacher seem to like children?. . . . Yes No

47. Are you afraid to ask for help? . . . . . Yes No

48. Do you hate school? . . . . . Yes No

49. Do most children in your room get the help they need? . . . . . Yes No

50. Do you feel you are treated fairly in school? . Yes No