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ABSTRACT

The research reported on here was conducted to evaluate the initial introduction of innovative classroom management techniques in selected classes of four elementary schools. The evaluation phase was conducted during the 1970-71 school year following a series of summer inservice workshops on instructional objectives, learning modules, and contingency management. The primary emphasis was on introducing and evaluating contingency management concepts and techniques for eliminating problems commonly experienced by elementary teachers. Data were also collected for reading and mathematics achievement, school attendance, and indicators of interest and attitude. Contingency management practices were more widely implemented by the program teachers than were the instructional objectives. All the teachers in the program implemented the general procedures using approval, praise, and learning success and eschewing scolding, punishment, and learning failure. Although the emphasis was on student behavior rather than on achievement, students of teachers who met a substantial portion of the program objectives showed small, but clear, gains over the other students. (Author/IRT)

CONSULTING REPORT

INNOVATION IN CLASSROOM MANAGEMENT: AN EVALUATION

by

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The Human Resources Research Organization (HumRRO) is a nonprofit corporation established in 1969 to conduct research in the field of training and education. It was established as a continuation of The George Washington University, Human Resources Research Office. HumRRO's general purpose is to improve human performance, particularly in organizational settings, through behavioral and social science research, development, and consultation.

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FOREWORD

This research effort was conducted by HumRRO to evaluate the initial introduction of innovative classroom management techniques in selected classes of four elementary schools in River Rouge, Michigan. The evaluation phase was conducted during the 1970-71 school year following a series of summer inservice workshops.

This report presents the results of the assessment of the implementation of classroom management techniques and procedures for eliminating problems commonly experienced by elementary teachers. The primary emphasis was on introducing and evaluating contingency management concepts in the classroom. Data were also collected for reading and mathematics achievement, school attendance, and indicators of interest and attitude.

The evaluation was conducted by HumRRO, Division No. 5, Fort Bliss, Texas. The workshops were conducted during June and July 1970, and the evaluation was conducted throughout the 1970-71 school year. Dr. William H. Melching was principal investigator for the workshop series, and Dr. Edward W. Frederickson served as principal investigator for the evaluation. Dr. Paul G. Whitmore participated in the preparation and administration of instruction, as well as in design and conduct of the follow-on evaluation program. Dr. Albert L. Kubala was Director of Division No. 5 during the evaluation phase. The Director of Federal Projects for the River Rouge School District, Mr. Fredric A. Rivkin, served as the Program Coordinator for the follow-on program. Mr. Rivkin had also been responsible for special assistance in scheduling and arranging the 1970 summer workshop series.

The research was conducted under contract with the River Rouge, Michigan School District.

Table of Contents

LIST OF FIGURES

LIST OF TABLES

INNOVATION IN CLASSROOM MANAGEMENT:
AN EVALUATION

INTRODUCTION

During the summer of 1970, a series of inservice teacher training workshops were conducted for the River Rouge, Michigan, School District. This series of workshops was initiated as a result of dissatisfaction with the general achievement of children in elementary grades of four schools in the district. It was proposed that the problem of poor academic performance by K-3 students could eventually be lessened if not eliminated by modifying existing classroom management procedures for motivating and controlling student performance.

The rationale for the proposed solution to this problem was that in order for the teacher to be able to devote a major portion of her time to the instructional process, she must first gain control of the behavior of her students. The initial emphasis was thus placed on management of non-academic behavior. It was hypothesized that the introduction of classroom management techniques would result, during the first year, primarily in changes in student behavior, and further, that little, if any change, would appear in academic performance. Significant changes in academic performance would not be expected until after the second or third year of the program.

The approach taken in the 1970 workshops had as one goal, bringing about desirable changes in the student behavior by undertaking to change the behavior and capabilities of the teachers. To evaluate the effects that the workshops had on the teachers, a follow-on program was initiated during the 1970-71 school year. In this program, the teachers were given support by HumRRO in addition to that provided by the school district administration. This report describes the follow-on program and the subsequent evaluation of teacher and student behaviors.

THE CONTENT AND CONDUCT OF THE CLASSROOM MANAGEMENT WORKSHOPS

Based upon the major experience of the HumRRO research staff and analysis of the situation that existed in the River Rouge School District, the approach to the workshops concentrated on bringing about three changes. The basic requirements for change were, first, that the teachers define the goals of their instruction in behavioral terms; second, that the teachers use effective techniques for modifying students' behavior towards these goals; and, third, that every student exhibit the specified behaviors before progressing from one point of instruction to another. These requirements for change came about because of evidence in education that inadequate use of rewards or reinforcers combined with inadequately stated instructional goals and inappropriately organized instructional materials all contributed to poor academic performance.

Three integrated workshops were designed and conducted to help school personnel use innovative techniques to bring about the three desired changes in the educational situation.[1/] The first workshop was concerned with the development and use of instructional objectives. The second was concerned with implementation of concepts of learning modules and mastery tests. And, the third concentrated on the employment of contingency management techniques in the classroom. The workshops were designed to provide participants with first hand practice and experience with practical exercises built into each workshop. Participants used the instructional materials from the course content taught during the previous school year. They were also asked to bring up for discussion specific behavior problems that they had experienced in their classroom environments. The contingency management workshop, in addition, included classroom practice with pupils. Two teachers

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1/ These workshops are fully described elsewhere and will only briefly be covered here. For further description see Melching, Frederickson, and Whitmore, 1970.

were assigned to each classroom. There were four rooms for each of the grades 1, 2, and 3. Although there were teachers who had taught from kindergarten (K) through the third grade, and were going to teach during the Fall from grade K through 4, they were assigned in the summer workshop to grades 1-3 for administrative convenience. While one teacher taught, the other teacher observed and recorded the teaching behaviors of the other. The set of three workshops extended over a period of 19 days with the contingency management workshop held in the morning and the workshop on objectives and learning modules held in the afternoons. All four elementary schools in the district were represented in the workshops.

Workshop on Instructional Objectives

The content of this workshop was designed around the premise that although teachers traditionally attempt to express the goals of their instruction, they often do not state these goals in explicit and unambiguous terms. They often phrase these goals in terms of instructional content or in terms of the behavior engaged in by the teacher. The goals of instruction have seldom been stated in terms of what the student must learn to do. Recent innovations in education have determined that better teaching and better learning will result when goals are stated in terms of student performance.

The primary skills that teachers were expected to acquire during the objectives workshop were concerned with writing behavioral objectives. First, teachers learned to think and write in terms of student behaviors. They learned that behavioral objectives contain three structured components--action verbs, conditions under which the action is to be demonstrated, and standards of acceptable performance. They learned to write objectives with clarity, communicability, and explicitness. As a last exercise, the teachers wrote criterion test items for some of the objectives they had generated.

Once the teachers had had preliminary practice in evaluating statements of instructional goals, they proceeded to write objectives, first, for instruction that they presented during the summer school, and second, for the instruction they expected to present during the 1970-71 school year. These activities resulted in the group of teachers establishing a common set of objectives for each of the grades across all four elementary schools. This initial list of objectives included terminal and enabling objectives for reading and mathematics for grades 1, 2, and 3. Also included were statements of desired entry level performance for grade 2. A total of 185 objectives were generated during this workshop, covering both reading and mathematics for K-3 grades. Each teacher was given a copy of these objectives to be used as appropriate during the school year.

Workshop on Learning Modules

The concept of learning modules was introduced as a means of organizing learning and instructional materials into meaningful chunks around objectives. The teachers learned (with some difficulty with reading) to divide instructional content into modules for some of the objectives they generated. It was pointed out that the amount of materials in the modules could vary as a function of natural or logical points for division. Once objectives were written and modules prepared, the teachers learned to outline the learning materials and set of learning experiences necessary for the student to be able to demonstrate mastery of the content.

After some difficulty, the teachers came to an agreement upon a common set of reading objectives for comprehension and word-attack skills for all grades. The general behavioral purposes of comprehension were identical for all grades, but the reading materials, which provided the context for the evaluation of comprehension, were presumed to be of a difficulty appropriate to each grade. As a result, the reading comprehension modules were defined in part by the behavioral components of comprehension and in part by the difficulty of the reading material. Modules for the word-attack skills component of reading were developed separately for each grade.

The modules provide a basis for establishing a mastery learning strategy in which each student must attain each objective and in which the progression of each student is based upon his attainment of individual objectives. In order to maximize success and to eliminate failure, each student must attain earlier objectives before progressing to subsequent objectives. The modules produced in this workshop are neither comprehensive nor completely adequate, but they do provide an acceptable beginning upon which to base future developments.

Workshop on Contingency Management

This workshop was built around the contention that the teacher can modify and control both the disciplinary and academic performance of her students by controlling her own responses. There is evidence to indicate that this contention holds across all types of teacher personalities and for all types of student problems (Thomas, Becker, and Armstrong, 1968). The workshop was designed to provide the teacher with systematic shaping of her own behavior in ways that will improve the performance of her students. The basic premise states that behaviors that are followed by satisfying or rewarding events are more likely to reoccur than behaviors that are followed by unsatisfactory or non-rewarding events.

The major portion of the time in the contingency management workshop was occupied by practical exercises--the application of contingency management in the classroom. The basic concepts, principles, and techniques were discussed during group meetings held each day. The skills acquired during this workshop were based upon the contention that stimuli in the classroom environment are the causative factors of behavior rather than motivational, moral, or affective characteristics of the child. The teachers learned to pinpoint and define both appropriate and inappropriate behaviors in terms of observable actions. They learned to identify those environmental events that maintained behavior. They practiced observing and recording data on defined behaviors. Finally, the teachers learned to develop strategies for changing inappropriate classroom behavior.

The teachers' classroom behavior was observed both during the four-week workshop and subsequently during the school year. The observers reported the frequency of response opportunities provided by the teacher, the frequency of approving behaviors in response to children's responses, and the frequency of disapproving behaviors. At the beginning of the summer workshop, a number of teachers did not provide a sufficient number of response opportunities to the children. As a result, the children were not involved to a sufficient degree in interactive relationships with the educational materials. Table 1 shows the results of the observations that were conducted during the summer and at the beginning of the 1970-71 school year. A program to change teacher behaviors was begun, and as a result, there were significant changes in teacher behaviors in all three categories of behavior that were observed--response opportunities, approving behaviors, and disapproving behaviors. It was concluded from the evaluation of the observation data collected during the workshop period that the behavior of the teachers as a group changed significantly and was maintained at the beginning of the school year. They increased the frequency of response opportunities which they provided the students; they increased the use of positive reinforcing statements and gestures made in response to appropriate student behaviors, and they decreased their use of aversive or punishing statements and acts.

Table 1

Teacher Behavior Observed During
the 1970 Summer Workshop and Beginning of
the 1970-71 School Year

Teacher Behaviors	Summer 1970		School Year
	1st 3 Days	Last 3 Days	3 Days
Response Opportunities	37.5	59.4	64
Approving Behaviors	34.6	44.5	48
Disapproving Behaviors	6.5	3.2	4.8

FOLLOW-ON PROGRAM

In recent years, our society has solicited and supported many programs for introducing educational innovations in the school systems. These programs have resulted in few significant changes in actual instructional practices. One reason for the failure to fully implement innovation has been that teachers and administrators have typically been exposed to new techniques and approaches for innovative solutions through seminars, literature, and attendance at professional meetings. However, merely reading or hearing about these practices has not resulted in the desired change in the educational system. In order to prevent failure for this reason, the inservice workshops were followed up with a program to facilitate change during the 1970-71 school year. The primary goal of this follow-on program was to increase the probability of successful attempts by the teachers to implement the techniques and procedures they had learned in the summer workshops. In addition, the follow-on program was designed to provide an evaluation of the effectiveness of these procedures and techniques in the classroom. Primary emphasis during the evaluation phase was on the assessment of the effectiveness of the contingency management programs designed to eliminate inappropriate classroom behaviors.

One premise of the follow-on program was that making a verbal or written commitment to perform specific activities will increase the probability that a person will indeed perform such activities. An attempt was made to get each teacher to make a formal commitment for implementing the use of behavioral objectives and contingency management in her instructional procedures. Making such a commitment assured the teacher of administrative support for her change activities.

The overall approach to the follow-on program involved group and individual meetings with teachers with periodic observation of teacher classroom behavior. Support for the teachers was provided by the school district administration and by a team of HumRRO researchers. The director of State and Federal Projects in the River Rouge School District was appointed the Program Coordinator for the follow-on program. It was his responsibility to conduct the meetings with teachers and to observe the teachers periodically in the classroom. He was to be constantly available to the teachers to help solve any problem that might arise.

The initial phase of the follow-on program involved observation of the classroom behavior of students by teachers for the first five to six weeks of the school year. During this period, teachers were initially to identify behavior problems that disrupted or prevented the establishment of a desirable learning environment. However, some teachers immediately began using contingency management procedures with their classes. A few teachers began the year by using the list of entry behaviors generated during the summer workshop to identify the performance levels of the students coming into their classes. So actually, implementation of the procedures learned during the summer workshops began before it was anticipated in these few cases.

The Program Coordinator held several meetings with the teachers during the school year. The HumRRO team made five trips to River Rouge and was present for five of these meetings. During these meetings, problems teachers had encountered in implementing contingency management techniques in the classroom were discussed. Solutions were arrived at either through group discussion or through suggestions from HumRRO research personnel. Contingency management programs were also developed and designed for individual teachers who had specific behavior problems. These rather informal meetings were also used for providing feedback to the teachers regarding technical errors made in implementing CM procedures and techniques, and for providing positive reinforcement of appropriate teacher behavior.

Throughout the year, the Program Coordinator gathered information and prepared reports of the activities of program teachers. He selected exemplary programs developed and applied by some of the teachers in their classrooms for publication in a special newspaper ("The Bugle") concerned only with activities in the program. In this way, he was able to reinforce successful teachers with public recognition and designate model programs which other teachers might emulate. Three issues of "The Bugle" were circulated among the teachers and administrators in the River Rouge School District. Excerpts from these three issues of "The Bugle" are included in Appendix A. An interim report was prepared by the Program Coordinator, and the material from this report has been incorporated into this publication. Also included in Appendix A are copies of the announcements of the meetings during the year in which HumRRO staff members were present.

During the week of 25-28 January, 1971, an interim report was made to the school board of the River Rouge School District. At this time, progress through mid-January was reported. This meeting was open to the public, and approximately 50 people from the city of River Rouge attended. During the final visit of HumRRO staff members in May, 1971, a report was made to the administrative personnel of the district. The last week of the school year, teachers were given

the opportunity to take a test covering the use of contingency management techniques and procedures, successful completion of which was one of the requirements for certification in Classroom Management.

TYPES OF DATA ACCUMULATED

Initially, eight types of data were to be accumulated during the 1970-71 school year to evaluate the effectiveness of the summer workshop series as follows:

1. Achievement data. The California Achievement Test for Reading and Mathematics was administered to all students in grades one through four at the end of the year. Similar data were also available for grades one through three from 1969--two years earlier.

2. Attendance. Attendance records were kept for grades one through four. A comparison of students of program teachers and non-program teachers was made.

3. Discipline problems reported to the principal. It was originally planned to have the principals in each elementary school maintain records of discipline problems so that comparisons could be made between program and non-program teachers.

4. Referrals to the Learning Disability Center. Records were maintained of the number of referrals made by teachers to the Learning Disability Center.

5. Changes in attitudes of students and teachers. Informal and anecdotal data were obtained to reflect subjective attitudes of students and teachers in the programed classes. Actual comments of several teachers and students have been recorded.

6. Interest expressed by other teachers in program activities. It was anticipated that teachers who have not been able to attend the workshops would express some interest in the techniques being used by the program teachers. Informal records of this interest were kept by the Program Coordinator.

7. Extent of use by teachers of contingency management programs. Since this was the primary objective of the follow-on program, records were kept on contingency management programs used in classes by the teachers.

8. Extent of use by teachers of behavioral objectives and learning modules. Teachers were periodically contacted to determine extent of their use of objectives and learning modules.

Data were collected for all items in the above list except for item 3. There were not a sufficient number of discipline problems reported to the principals in grades one through four to provide a basis for assessment.

The results of the evaluation have been divided into three sections: One covering teacher behaviors, a second covering student behaviors, and a third covering other aspects of the evaluation.

Teacher Behavior

The evaluation of teacher performance in the implementation of contingency management techniques and procedures was based upon the attainment of nine performance objectives. These nine objectives are listed below.

1. Given a number of common motivational and disciplinary practices in home, school, and work situations, make predictions regarding the behavioral outcomes in these situations which are in agreement with contingency management expectations. At least one of the following classes of practices will be included.

   a. Frequent and contingent applications of intense punishment to suppress undesirable behaviors: (1) effect on the punished behavior, and (2) effect on subsequent behaviors.

   b. The indiscriminant application of positive reinforcement to both desirable and undesirable behaviors.

   c. The application of mild punishment intended to weaken undesirable behavior, but in fact acting as an inadvertant positive reinforcer to maintain it.

   d. The application of non-contingent (i.e., delayed and/or inconsistent) punishment intended to weaken undesirable behaviors: (1) effect on undesirable behaviors, and (2) effect on subsequent behaviors.

   e. The application of non-contingent (i.e., delayed and/or inconsistent) or disruptively applied positive reinforcement intended to strengthen desirable behavior.

f. The application of a reward before the occurrence of a desired behavior.

h. The application of competition with respect to the frequent loser.

i. The continuing application of learning or performance tasks of such great difficulty as to result in repeated failure experiences.

2. Given an instance of common home, school, or work problem situations requiring motivational or disciplinary treatment, identifies information about the behavior of the target population in the immediate environment as the only absolutely necessary information for the development of an effective treatment.

3. Given an instance of common home, school, or work problem situations requiring motivational or disciplinary treatment, identifies the potentially most effective treatment.

4. Given specifications of desirable and undesirable behaviors in common home, school, and work situations, identifies those which are improperly specified.

5. Given instances of desirable and undesirable behaviors in common home, school, or work situations, identifies effective techniques for monitoring the occurrence of each behavior for record-keeping purposes.

6. Given specifications of desirable behaviors in common home, school, or work situations, identifies techniques for making response opportunities available to all members of the target population.

7. Given specifications of a target population in common home, school, or work situations, identifies potentially effective positive reinforcers or techniques for identifying such reinforcers.

8. Given specifications of desirable and undesirable behaviors in common home, school, or work situations, identifies effective techniques for applying either reinforcement or punishment, as appropriate.

9. Given instances of contingency management programs that have successfully brought a target behavior under control, identifies appropriate techniques for ending the program.

During the school year the HumRRO staff decided that those teachers who demonstrated attainment of the objectives cited above and who performed successfully in the classroom should be rewarded

and receive recognition. As a result, it was decided that those teachers who successfully achieved these objectives would be given a certificate which would recognize their classroom management capabilities. A certification test was developed that evaluated the attainment of the first four objectives. Evaluation of teacher attainment of the last five objectives was based upon observation of teacher behavior in the classroom. Eight of 24 teachers took the test. Seven performed adequately on all aspects. One teacher had some difficulty with the first part of the test covering the first objective of the program, but performed sufficiently well to meet the objectives. All eight teachers performed satisfactorily in the classroom, meeting the remaining five objectives; and as a result, were certified. Certificates were presented to these teachers at a dinner held by the River Rouge School District at the end of the school year. A copy of the certificate is included in Appendix B. The newspaper in the city of River Rouge, the River Rouge Herald, carried an article covering the awarding of the certificates with pictures of the presentation. The text of this article is also included in Appendix B.

All 24 teachers in the program used general contingency management procedures. These general procedures, in contrast with formal contingency management strategies, consisted of positively reinforcing (i.e., approval, praise, and success in learning) appropriate behaviors and extinguishing inappropriate behaviors by ignoring them. Twenty of the 24 teachers made extensive use of the general procedures with the remaining teachers using them to a lesser degree. During the workshop, it was pointed out that the use of the general CM procedures should occupy about 80 to 90% of their CM efforts. It was concluded that 100% of the teachers used general CM procedures and used them appropriately. By the end of the school year, many of the teachers found that extensive use of these general procedures produced a very low rate of inappropriate behavior which made it even easier for them to further ignore such behavior. Some teachers used a modification of the general procedures in which punishment was used to suppress instances of inappropriate behavior which could have resulted in physical harm to the child or to some other person.

The use of formal contingency management strategies varied considerably among the teachers. A formal strategy was defined as a CM program that was outlined in detail and directed at changing the frequency of explicit student behaviors. Twenty of the 24 teachers used some form of formal strategies for modifying classroom behavior. Formal programs varied from simple, two-week programs for shaping the behavior of one child, to complex token economies which were operated during the entire school year. Some teachers found a dramatic change in behavior after operating a formal program only a short period of

time. Examples of the results of four formal programs are shown graphically in Figures 1-4. The first graph (Figure 1) shows the results of a program initiated to teach an entire class to remain quiet during the time the teacher presented instructional material. As soon as the program was put into operation, the behavior of the students changed. This shows the efficacy of CM programs. Figures 2-4 also show similar results of programs designed to eliminate behavior inappropriate for a learning environment. These results are only a sample of many programs conducted by the teachers. Appendix C provides descriptions of these programs. Some teachers quickly progressed from the use of strategies to manage disciplinary problems to the use of strategies to increase academic performance. Other teachers used formal strategies only for managing or eliminating disciplinary or disruptive behaviors. There were several cases where teachers used formal strategies to bring class behavior under control, maintaining the desired level of student behavior by using general CM procedures.

At the beginning of the school year, a few teachers believed that the CM procedures should only be used in the classroom when a disciplinary problem existed. Two teachers expressed the desire to use CM techniques in their classrooms, but declared that their classes were behaving satisfactorily. It was pointed out that there is no need for formal CM programs in such cases, but that the general procedure of reinforcing acceptable behavior should be used to maintain the already existing desired state.

The total number of programs used by teachers is difficult to determine since in several cases, teachers did not report to the Program Coordinator that they had started new programs. However, it was estimated that half of the teachers made extensive use of formal contingency management strategies. Another 25% used programs when they thought it was necessary to establish desirable behavior. Four teachers made no attempt to use the formal strategies, although they did use the general procedures.

Several teachers set up token economy situations in the classroom, but only two teachers developed extensive, complex token economies that were carried out for a major portion of the school year. In these two cases, extensive use was made of behavioral objectives as well as CM procedures. Both programs were very successful. One reason for these successes was the realization by the teachers that a very basic ingredient of maximizing student achievement is individualizing the instruction for each student, and that the teacher must provide each student with materials and opportunities for responses at a level at which he can succeed. However, the work must be

Formal Program #1
School B

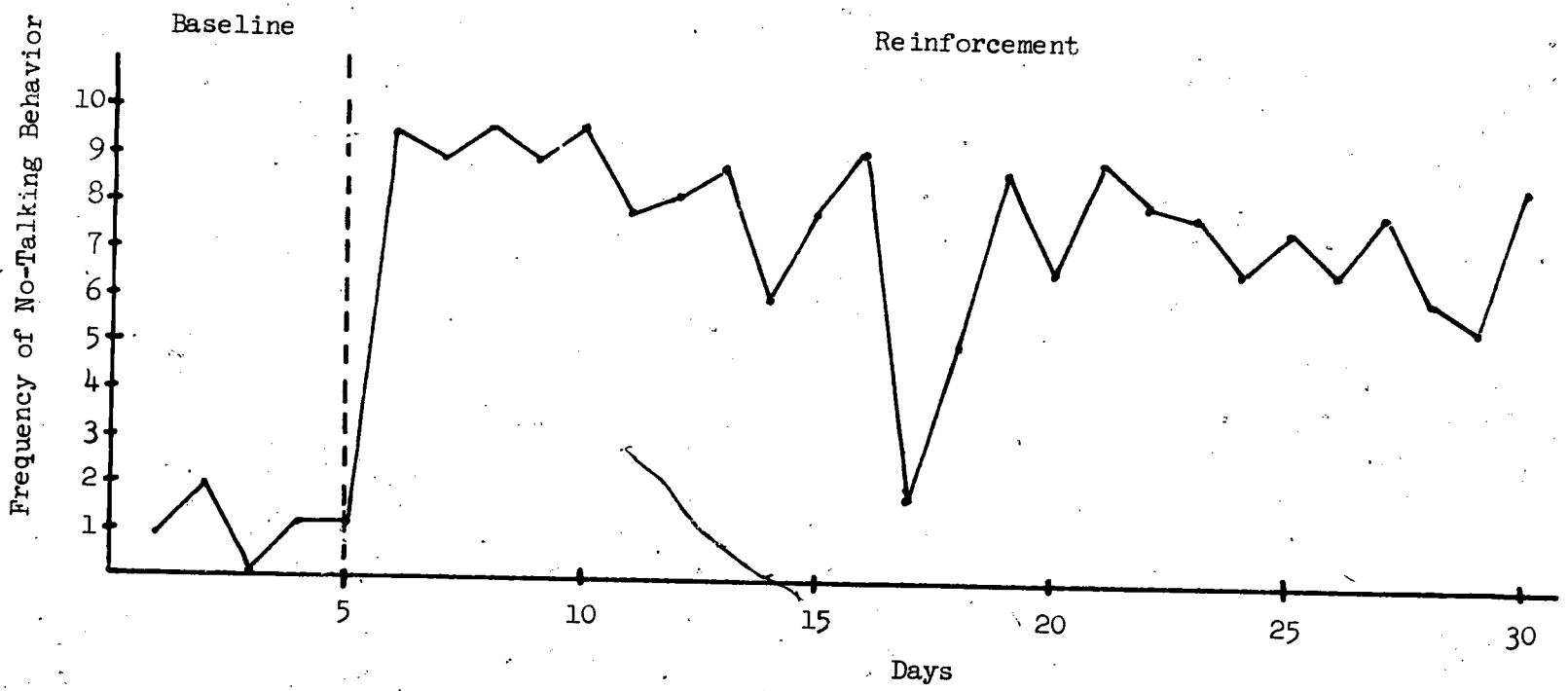


Figure 1

Results of a CM Program Designed to Teach a Group* of Third Grade Pupils to be Quiet During Instructional Periods

*n=27

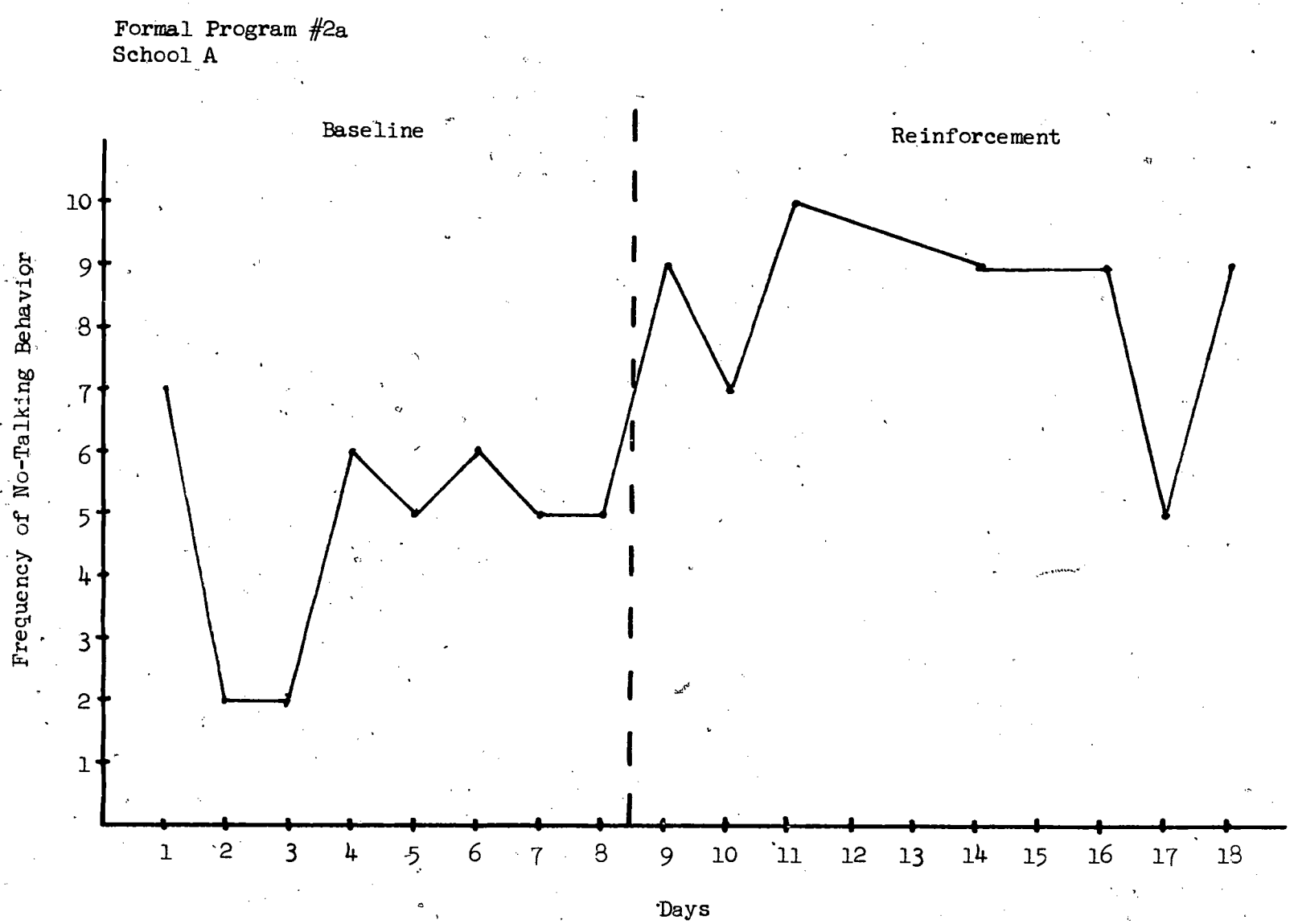


Figure 2

Results of a CM Program Designed to Eliminate Talking-out Behavior Exhibited by the First Pupil

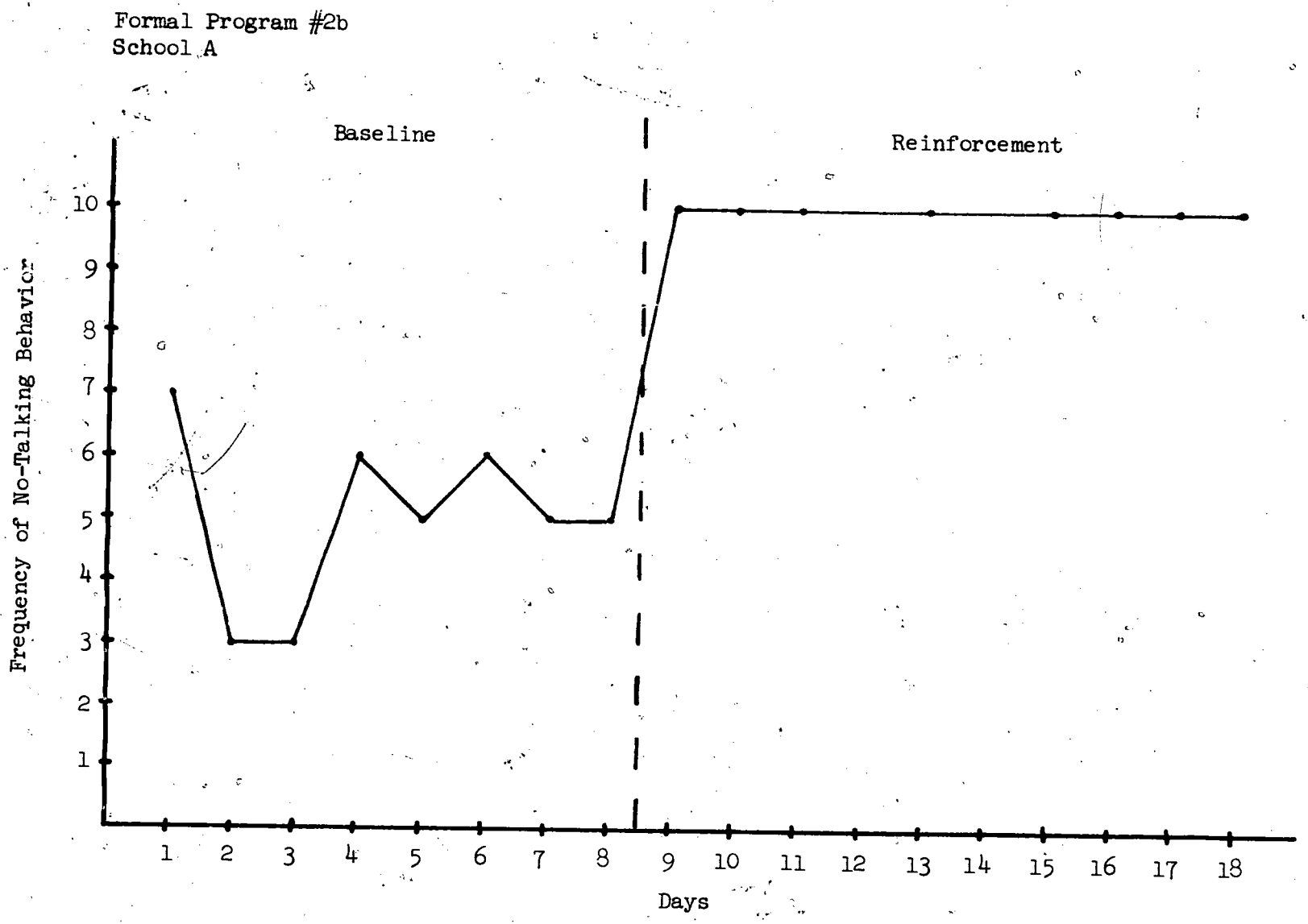


Figure 3

Results of a CM Program Designed to Eliminate Talking-out Behavior Exhibited by the Second Pupil

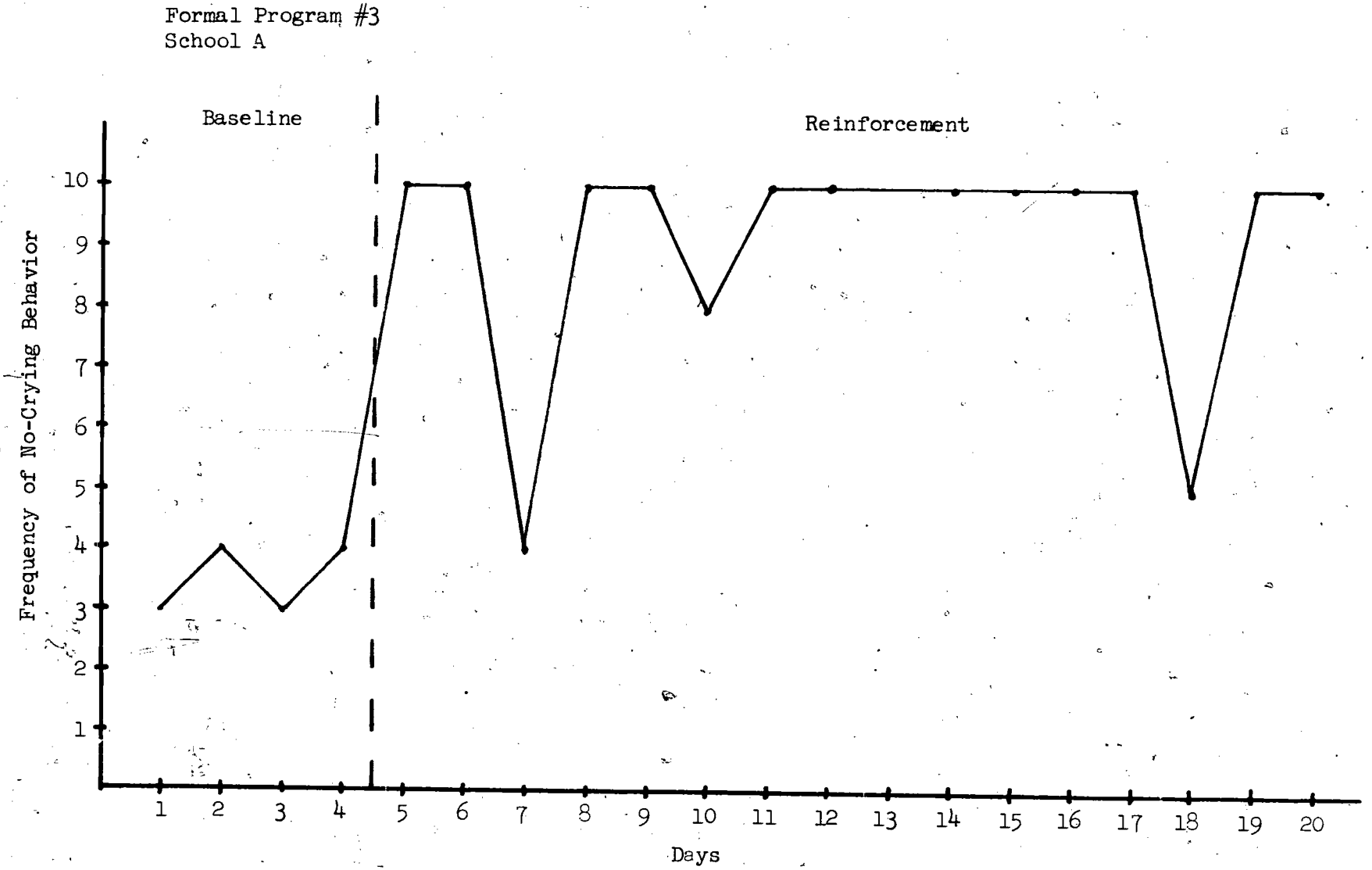


Figure 4

Results of a CM Program Designed to Eliminate Inappropriate Crying Behavior of One Second Grade Pupil

challenging enough in order for the child to achieve the objectives laid down in the academic programs. Both of these teachers observed that constant change is a necessary ingredient for improvement of such a program to keep the interest of students. A description of one token economy program is contained in Appendix D.

With regard to the utilization of the instructional objectives, several teachers made extensive use of the objectives in very specific and identifiable ways. Other teachers used the objectives, but quite sparingly and in a general manner. Of the 24 teachers, 13 reported that the objectives were useful as a guide in reviewing the previous year's instructional material given a student. They also reported that the objectives provided a useful guide in planning daily activities and determining content to be taught. Two teachers found that the list of objectives that had been developed during the workshops was not adequate for their purposes. They modified and extended the list in order to determine the performance level of each student. These two teachers prepared check lists based on their revised objectives for recording students' progress during the year. Effective individualized instruction requires the use of behavioral objectives as mastery criteria to determine individual student progress. Only a few teachers expressed the feeling that objectives were of limited value and did not use them at all during the school year.

Subjective evaluation of teacher attitudes toward the use of contingency management procedures and the use of instructional objectives and learning modules indicated enthusiastic response on the part of about 30% of the teachers, moderate enthusiasm by 50% of the teachers, and a lack of enthusiasm by 20% of the teachers. Some teachers were somewhat skeptical of the effectiveness of CM procedures in modifying classroom behavior before the school year began and had not been completely convinced as a result of the summer workshops. However, by the end of the year, the teachers expressed marked surprise at the effectiveness of CM procedures in changing or modifying behavior. One of the teacher aides developed an alternative phrase for the initials "CM". She said that as far as she was concerned, CM stood for "child magic" rather than contingency management because of the effectiveness of the procedures. Enthusiastic behavior on the part of the teachers occurred when the teachers felt they had sufficient amount of administrative support.

Student Behavior

The ultimate criterion for evaluating the effectiveness of the summer workshop program was, of course, the occurrence of changes in student behavior. However, because the teachers had just become

familiar or acquainted with the techniques and procedures of instructional objectives, learning modules, and contingency management, it was not anticipated that very much, if any, change would occur in some of the independent measures on which data were gathered. It was expected that the greatest change of behavior would be noted in a decreased occurrence of disruptive behaviors in the classrooms of the teachers who participated in the program. This behavioral change, indeed, was observed by those teachers who used a great number of formal contingency management strategies in managing the classroom behavior of students. Teachers who used only the general CM procedures also reported a decrease in behavioral problems in the classroom. In those cases where students were provided educational activities at their performance leve and were involved in something they could do successfully, there was a marked decrease of behavioral problems and disruptive behaviors. Several teachers who conducted formal CM programs for the management of the behavior of the entire class reported that the programs were very successful, and as a result, they were able to give more time to the instructional process rather than devoting much time to disposing of disciplinary problems. Many teachers were able to change the goal of their formal CM programs from managing social behavior to managing academic behavior rather quickly. This was a desirable result since the ultimate goal was to maximize the student achievement in the classroom.

Data were collected and comparisons have been made on academic achievement in the areas of reading and arithmetic for all four grades. The California Achievement Test was selected as the evaluation instrument for achievement in reading and arithmetic primarily because it had been given two years before and because those data were still available for comparisons. The achievement data of the students of three teachers were not included in the analysis: A kindergarten teacher, a reading readiness teacher, and a special education and remedial reading teacher. Data on comparison groups were not available for these teachers.

Reading data. Table 2 shows the mean grade placement level for reading broken down by school, grade level and comparison groups. Since the data base was not sufficiently large to permit statistical comparisons, none have been made. Graphic comparisons are presented in Figure 5 which shows achievement level by grade level for each school. In six of the eleven comparisons between program and non-program teachers, the students of the program teachers had a numerically higher grade placement level. In all but one of the ten comparisons between program teachers and the 1969 scores, the grade placement levels were numerically higher for the students of the program teachers. It should also be pointed out that in nine of the eleven comparisons between non-program teachers and the 1969 scores, the grade placement levels were higher for the students of the non-program teachers.

Table 2

Mean Grade Placement Levels for Reading*

School	Grade	1st			2nd			3rd			4th		
	Group**	P	NP	1969	P	NP	1969	P	NP	1969	P	NP	1969
A		---- ***	1.85	1.80	2.53	2.96	2.57	3.84	4.05	3.82	----	----	----
B		1.65	----	1.52	----	2.34	1.92	3.48	3.27	3.06	3.48	3.27	----
C		1.67	1.82	1.51	2.81	2.29	2.07	3.54	3.60	3.47	3.59	3.60	----
D		1.83	1.59	1.75	3.05	2.96	2.71	3.94	3.78	3.78	----	----	----

*Scores from the California Achievement Test have been converted to grade placement level.

** P = Scores of students in program classroom

NP = Scores of students in non-program classroom

1969 = Scores of students tested in 1969

*** ---- = Data not obtained or no representation of that group at that school

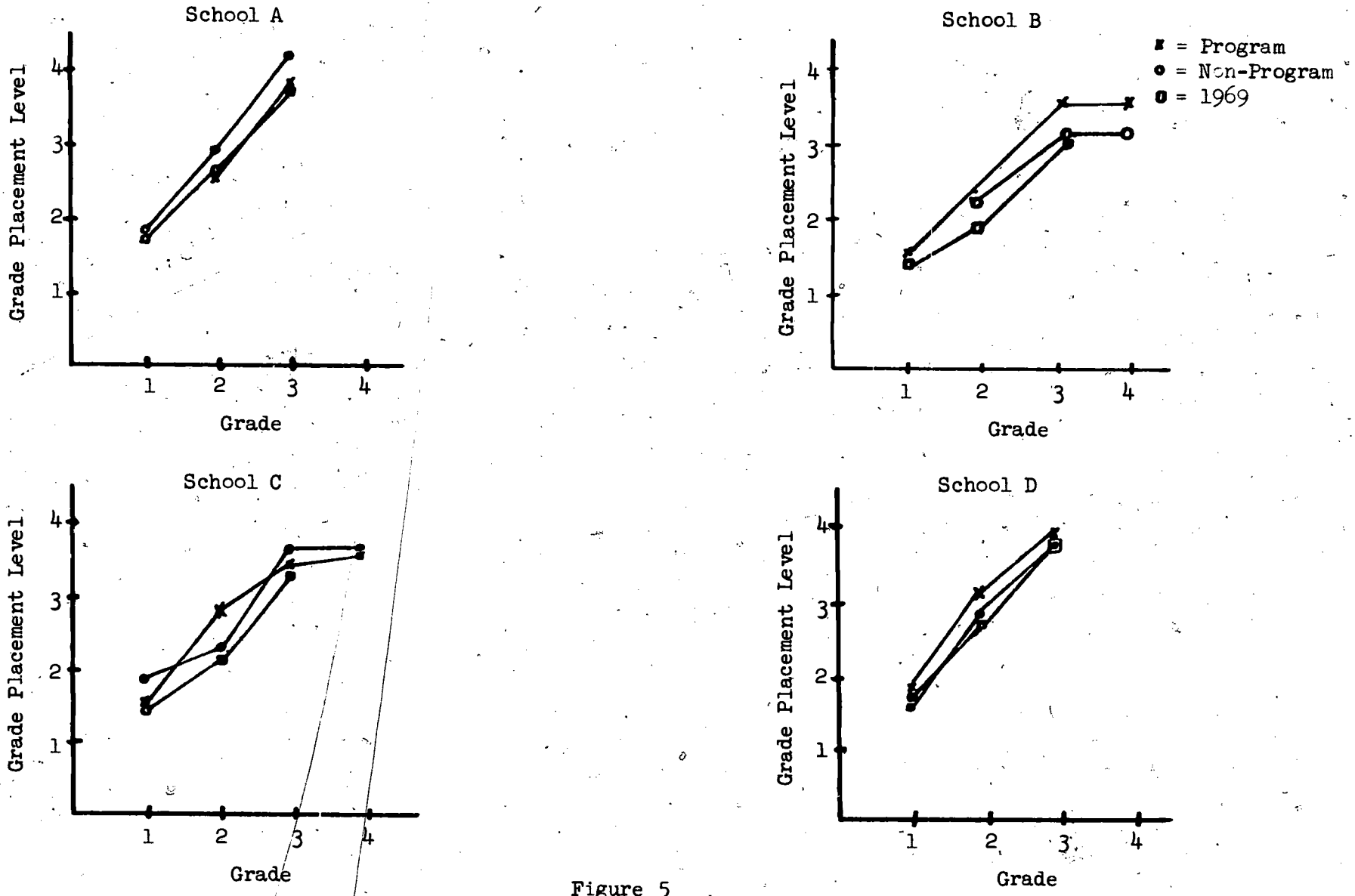


Figure 5

Mean Grade Placement Levels for Reading

The mean grade placement levels averaged across schools are entered in Table 3. Figure 6 shows the mean grade level across schools where comparisons could be made. In the latter comparison, if data did not exist for the program teachers, the data for the non-program teachers were not included and vice versa. In Figure 6 it can be seen that both the program and non-program groups were higher in grade level than the 1969 group. As anticipated, there is very little difference between the program and non-program groups. However, when averaged across schools, the mean grade placement levels for the program teachers were consistently higher than the other two comparison groups although this is probably not a statistically significant difference.

Of the 24 teachers in the program, eight achieved all nine objectives set down for the CM workshop; of the remaining 16, 11 showed sufficient performance to attain the objectives that were evaluated by classroom observation, i.e., the last five objectives. Student achievement data for the program teachers have been broken down into three groups so that comparison can be made across performance levels of the teachers as determined by the attainment of the nine CM objectives. These data are presented in Table 4. It will be noted here that students of teachers who did not take the certification test and who did not meet all five classroom performance objectives, performed at a much lower level than the students of the other program teachers. Assuming that the P_2 teachers would have passed the test, the data for the P_1 and P_2 groups have been combined, and these data are plotted in Figure 7 for comparison with P_3 data. Based upon this last comparison, it appears that teachers who achieved the objectives changed their behavior sufficiently to change the academic behavior of their students. In all cases, the students of the teachers who met the objectives performed at a higher level on the achievement test than the students of the teachers who did not meet the objectives or were not in the program. However, it cannot be definitely concluded that this difference was solely the result of the teachers' successful participation in the summer workshop and follow-on program. One explanation could be that the P_1 and P_2 teachers were better teachers to begin with.

Mathematics data. The mean grade placement levels for mathematics from the California Achievement Test are presented in Table 5. The data are broken down by school, grade level and teacher group. These mean placement levels are plotted in Figure 8 for a graphic comparison. Again, the data base was not sufficiently large to permit statistical comparisons. In five of the comparisons between program and non-program teachers, students of program teachers had a higher grade placement level than those of the non-program teachers. In seven of the nine comparisons made between the program teachers and the 1969 data,

Table 3

Mean Grade Placement Levels for Reading
Averaged Across Schools

Grade	1st	2nd	3rd	4th
Teacher Group				
Program	1.75	2.79	3.70	3.54
Non-Program	1.70	2.70	3.68	3.44
1969	1.63	2.44	3.53	----

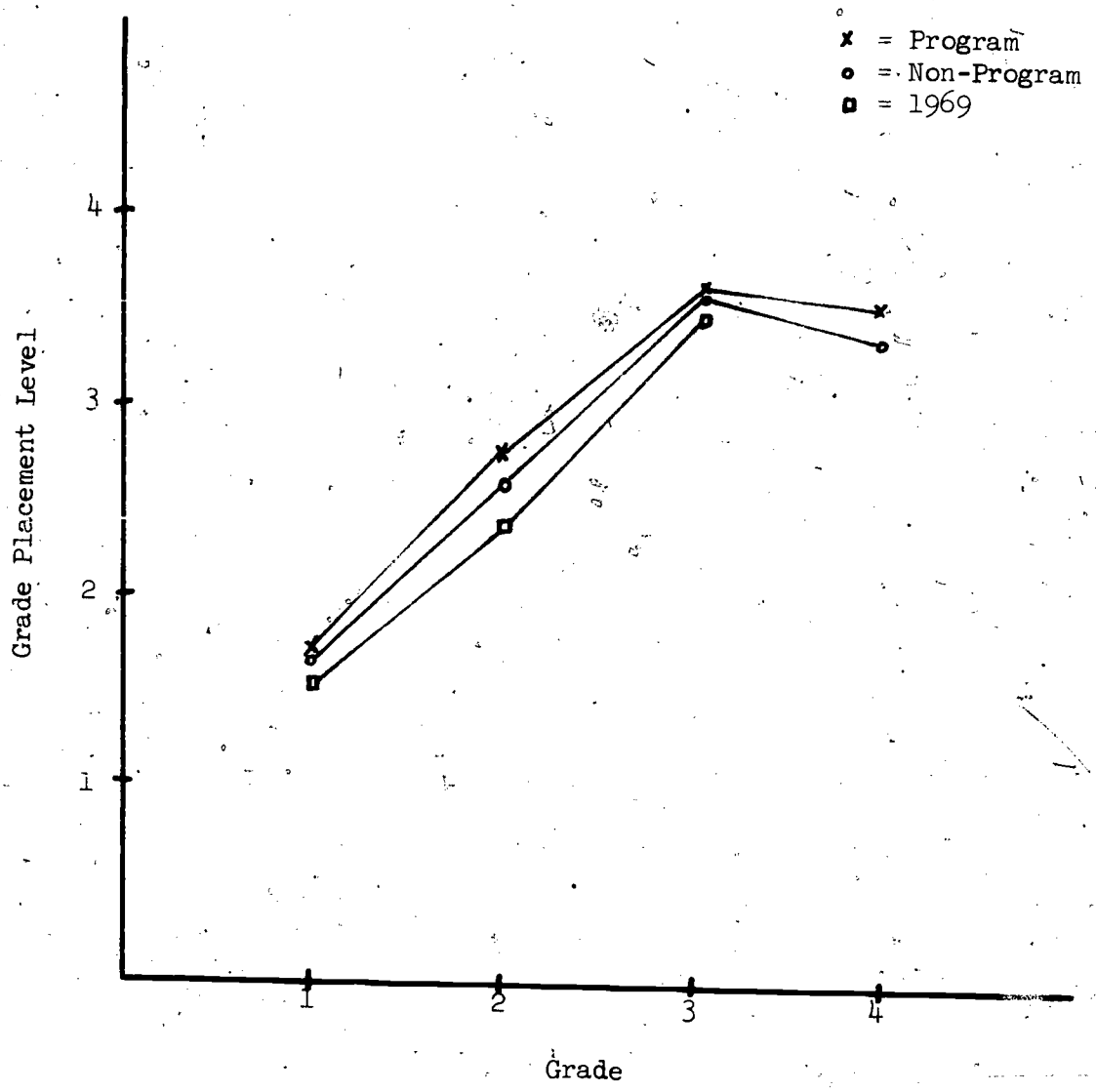


Figure 6

Grade Placement Levels for Reading
Averaged Across Schools

Table 4

Average Grade Placement Levels for Reading
Comparison of Teacher Subgroups (by Proficiency Level)

Grade	1st	2nd	3rd	4th
Teacher Group*				
P_1 & P_2	1.79	2.74	3.71	4.13
P_3	1.64	----	----	3.63
NP	1.70	2.70	3.68	3.44
1969	1.63	2.44	3.53	----

*P_1 = Teachers who took certification Test and met all 9 objectives.

P_2 = Teachers who did not take certification test but met all 5 of the remaining objectives.

P_3 = Teachers who did not take certification test and did not meet all of the 5 remaining objectives.

NP = Teachers not in program.

1969 = Teachers from school year of 1968-69.

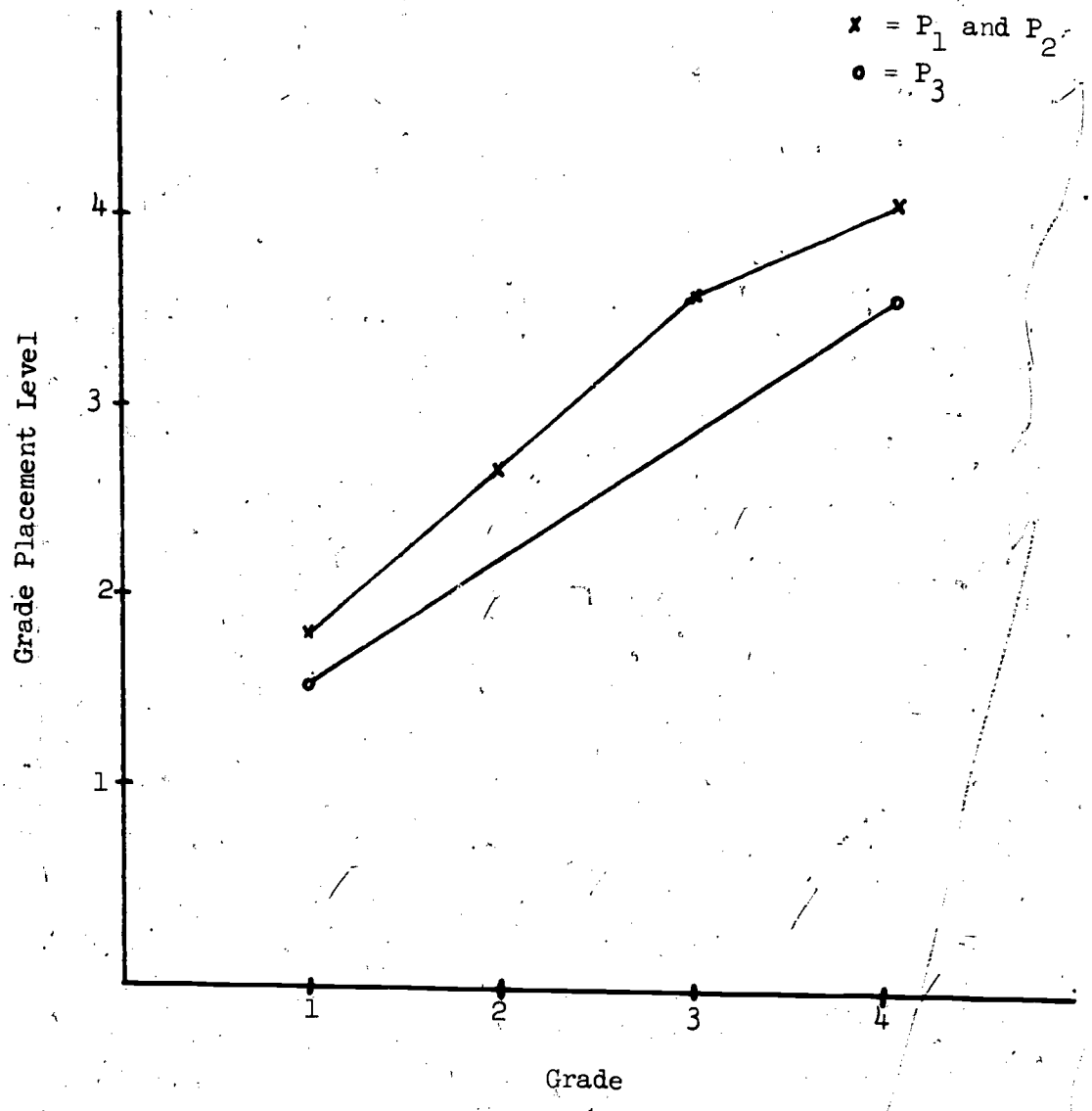


Figure 7

Average Grade Placement Levels for Reading
Comparison of Teacher Subgroups (by Proficiency Level)

Table 5

Mean Grade Placement Levels for Mathematics*

School	Grade	1st			2nd			3rd			4th		
	Group**	P	NP	1969	P	NP	1969	P	NP	1969	P	NP	1969
A		---***	1.86	1.82	2.59	2.82	2.55	4.07	4.24	4.18	----	----	----
B		----	----	1.52	----	1.82	1.81	4.06	3.40	3.71	4.27	3.88	----
C		1.57	----	1.33	2.74	2.04	1.75	3.78	4.21	3.75	3.98	4.26	----
D		2.03	2.07	1.72	2.82	----	2.45	4.45	4.15	4.26	----	----	----

*Scores from the California Achievement Test have been converted to grade placement level.

** P = Scores of students in program classroom

NP = Scores of students in non-program classroom

1969 = Scores of students tested in 1969

*** ---- = Data not obtained or no representation of that group at that school.

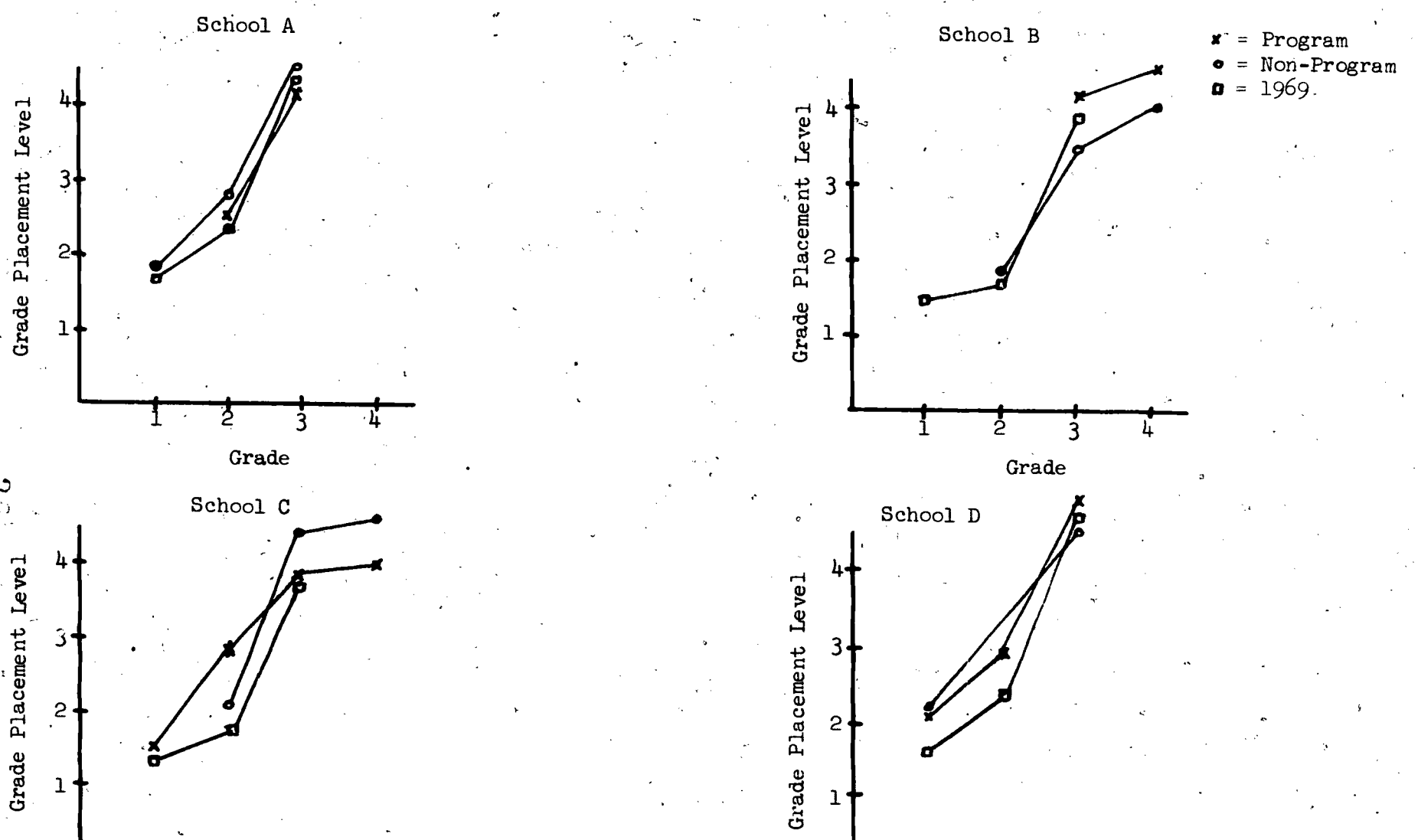


Figure 8

Mean Grade Placement Levels for Mathematics

students of the program teachers had a higher mean grade placement level than the 1969 data. Also, in seven of the nine comparisons between the non-program teachers and the 1969 data, students of the non-program teachers had a higher mean grade placement level than the 1969 data. When the grade placement level scores were averaged across schools, the students of the program teachers had a higher placement level in the second, third, and fourth grades than did the students of the non-program teachers and the 1969 data. Only at the first grade level did the students of the non-program teachers have a higher grade level than the students of the program teachers. Both these groups had a higher placement level than the 1969 data. The grade placement scores averaged across schools are presented in Table 6 and in graphic form in Figure 9.

The data for the program teachers have been broken down into the three subgroups just as was done with the reading data. These data are presented in Table 7. Although there is only one set of data for the group of teachers who did not take the certification test and who did not achieve all the remaining objectives, it seemed that the students of the teachers who became certified performed at a higher grade level. However, again, it might be pointed out that these teachers may have been among the better teachers in the district to begin with.

Although differences between the program and non-program student performance are not large, it is encouraging to note the trend of the differences. After spending a school year learning a new set of procedures and techniques to use in the classroom, teachers seemingly changed their behavior sufficiently to produce a consistent tendency for their students to improve their academic performance. There seems to be sufficient evidence to continue to support the program of using contingency management to manage classroom behaviors. It is also obvious that students of teachers who successfully attain the objectives set down in the workshop program perform at a higher grade placement level by the end of the year than those students of teachers who did not successfully attain the objectives of the program.

Attendance data. It was assumed that those teachers operating an effective contingency management program would probably have fewer absences than teachers not using CM. Data were collected on student attendance to test this hypothesis. The attendance data that were available are presented in Table 8. In four of the seven comparisons between program and non-program teachers, program teachers had fewer average absences per pupil per year. In nine of the ten comparisons possible between program teachers and the 1969 data, program teachers had considerably fewer absences. The data base again was not sufficient to permit statistical comparisons. Figure 10 is a graphic comparison of the mean average absences per student per year averaged across schools. It can be seen from Figure 10 that

Table 6

Grade Placement Levels for Mathematics
Averaged Across Schools

Grade	1st	2nd	3rd	4th
Teacher Group				
Program	2.03	2.67	4.09	4.13
Non-Program	2.07	2.43	4.00	4.07
1969	1.72	2.15	3.98	----

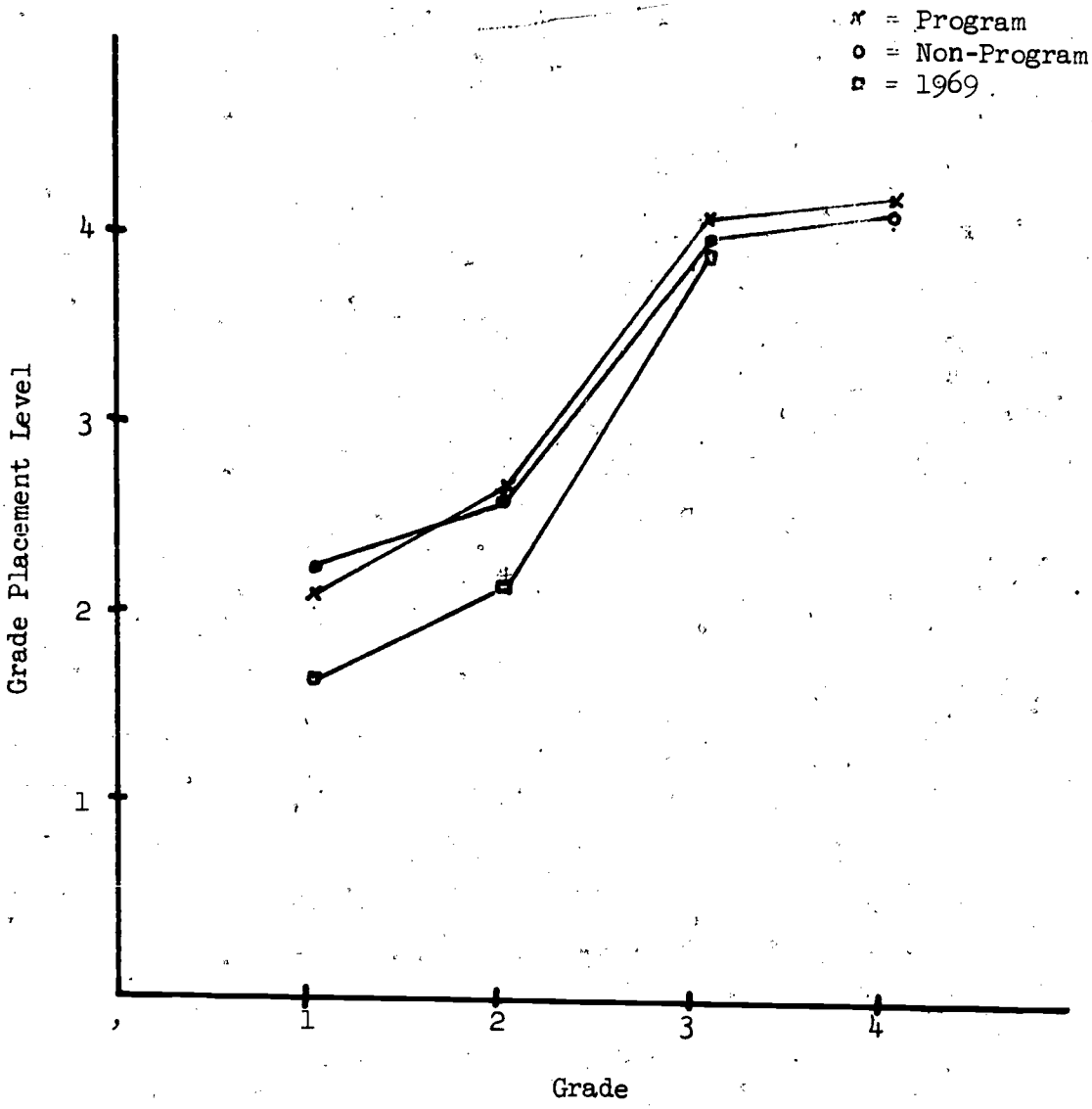


Figure 9

Grade Placement Levels for Mathematics
Averaged Across Schools

Table 7

Average Grade Placement Levels for Mathematics
Comparison of Teacher Subgroups (by Proficiency Level)

Grade	1st	2nd	3rd	4th
Teacher Group*				
P_1 n=8	2.15	2.61	4.06	4.35
P_2 n=9	1.74	2.75	4.11	----
P_3 n=4	----	----	----	4.08

*P_1 = Teachers who took certification Test and met all 9 objectives.

P_2 = Teachers who did not take certification test but met all 5 of the remaining objectives.

P_3 = Teachers who did not take certification test and did not meet all of the 5 remaining objectives.

Table 8

Comparison of Attendance Records*

Grade	1st			2nd			3rd			4th		
Teacher Group	P	NP	1969	P	NP	1969	P	NP	1969	P	NP	1969
School												
A	----	----	----	----	----	14.3	9.7	----	12.2	----	----	----
B	13.0	----	21.5	----	12.3	15.4	8.9	8.0	15.0	6.8	8.1	13.4
C	12.2	26.4	18.8	----	----	16.3	7.7	10.3	19.2	11.2	6.8	14.1
D	18.3	13.8	16.4	11.3	----	11.9	8.0	11.7	12.2	----	----	----
M across Schools	14.5	20.1	18.9	11.3	12.3	14.5	8.6	10.0	14.8	9.0	7.5	13.7

*Data consist of average number of days each student was absent during the school year.

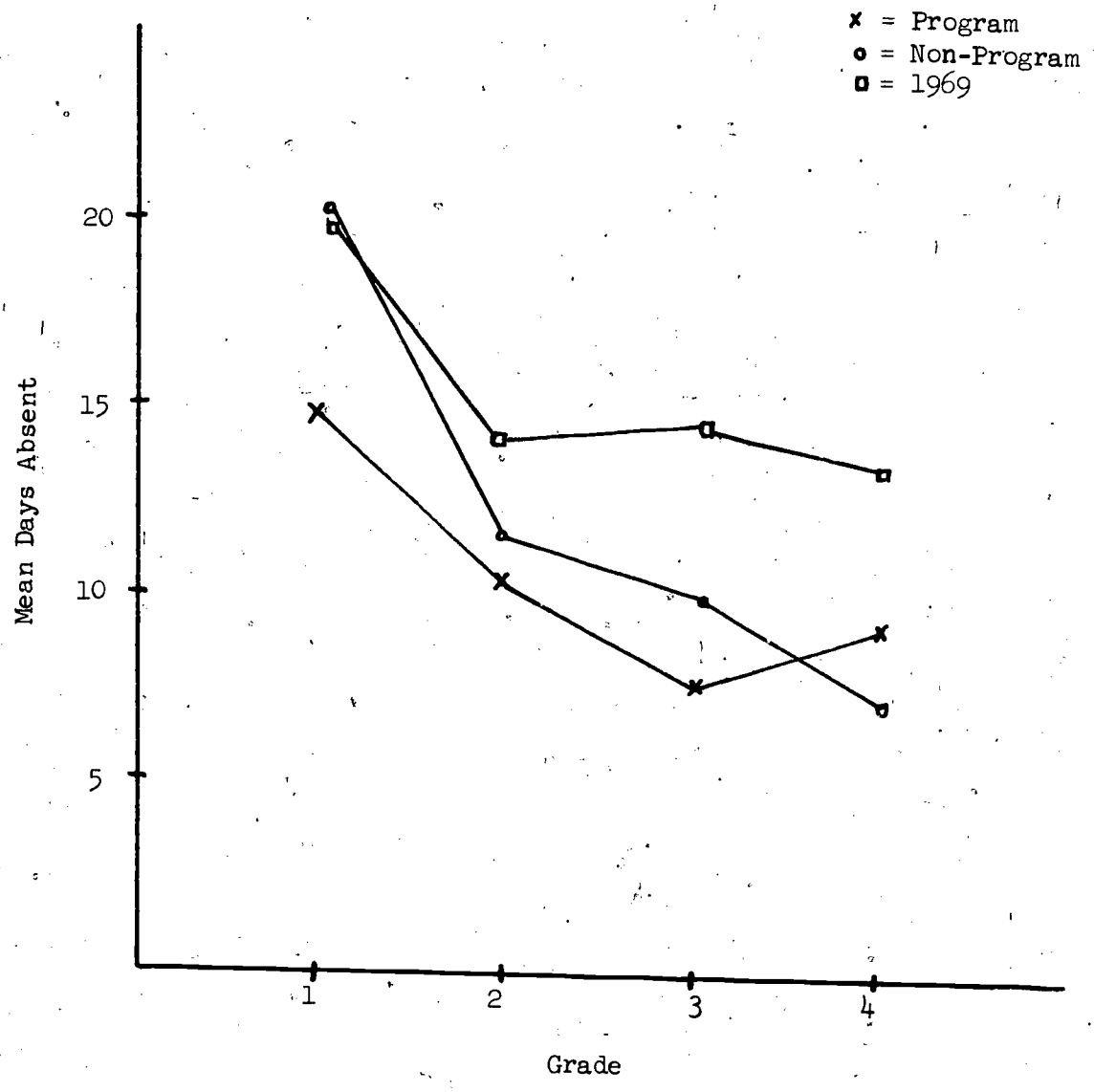


Figure 10

Mean Attendance Per Student for the Year

attendance generally improved from the 1969-70 school year to the 1970-71 school year. At all grade levels except the fourth grade, the program teachers have a lower number of mean absences than either the 1969 or the non-program data.

Two teachers were concerned about the attendance record of a few students in the classroom and set up contingency management programs to reduce the number of absences of these students. One teacher at School A had three students who were consistently absent. During a period of 15 days, the teacher gathered baseline data observing whether the student was present or not. Then for a period of 10 days, she instituted a CM program using reinforcement for attendance at school. Table 9 shows the results of the CM program. The program was completely successful for one child, moderately successful for the second, and not successful for the third child. The reason that pupil "c" did not respond probably was due to the reinforcers that were used; that is, the reinforcer was evidently not reinforcing enough for that child.

A teacher at School B had two pupils who were consistently tardy or absent during the morning school session. She designed a formal CM program that required these students to be present immediately after school began. One child responded immediately and was present at school and not tardy from the time the CM program began. It took the second child three to four days before he attended school regularly and was present on time.

From the attendance data for all teachers and from the data reported by the two specific cases, it can be concluded that the use of contingency management procedures and techniques in the classroom did influence student attendance. The teachers who were in the program, it can be assumed, designed a more desirable classroom atmosphere for the students. The behavior of the students indicated that they were more motivated to attend classes.

Referrals to the School Psychologist Data

It has been assumed that teachers who were implementing contingency management techniques and procedures would be more observant of their students' behaviors. Instead of referring all students whom they identify as problem children (with possible psychological problems) to the school psychologist, teachers would become more aware of the environmental events that were maintaining this behavior. As a result of the use of behavioral analyses, the teacher could probably design a CM program to manage or correct most behavioral problems. Based upon this assumption, data concerning the number of referrals by program and non-program teachers to the school psychologist were obtained. Data were also available from the previous two school years. Table 10 shows the average number of referrals to the school psychologist by teachers who made referrals during the 1968-69, 1969-70, and 1970-71 school years. The average across grades differed very little between

Table 9

Results of a CM program to Increase Attendance of Three Students at School A

Pupil	Baseline Period (15 Days)	Reinforcement (10 Days)
a	12*	0
b	12	6
c	11	10

*Number of days absent.

Table 10

Average Number of Referrals to School Psychologist

School Year	1968-69		1969-70		1970-71	
Teacher Group	P	NP	P	NP	P	NP
Grade						
1	2.5	3.4	2.0	2.0	1.7	2.0
2	2.3	1.8	3.0	3.0	2.0	5.3
3	2.6	2.1	2.0	2.1	1.7	1.3
4	1.0	2.0	1.7	3.2	1.3	1.3
Average Across Grades	2.1	2.3	2.2	2.6	1.7	2.5

program and non-program teachers. During the 1970-71 school year, the average number of referrals for program teachers dropped to 1.7 as compared to 2.5 for non-program teachers. Although the differences between program and non-program teachers at the various levels are not great, the overall averages indicate that the use of CM techniques and procedures may have influenced program teachers' referral behavior.

Behaviors for Which Strategies Were Used

The most common social or disruptive behavior for which contingency management programs were used was talking-out behavior. Many teachers used formal programs for individual students, and some teachers used programs for the entire class. In all cases, teachers found the programs to be effective in from five to ten days of providing reinforcement for not talking out. (See Appendix C.)

The second most common social behavior teachers worked to eliminate was getting out of seat behavior. Some teachers had problems with individual students for which programs were set up. In many cases, these programs were effective within a five day period. Another problem similar to being out of seat behavior was that of the child's turning around in his seat during instructional periods or during seat work. As mentioned earlier, a few teachers set up formal programs to reinforce school attendance and eliminate absenteeism. Other problems for which CM programs were used were to eliminate crying behavior in a first grade child and to eliminate swearing behavior in a fourth grade child. In the case of the child who periodically burst into tears in the classroom, a program was set up in which the child was reinforced for not crying during set periods of time. These periods of time were gradually lengthened so that eventually the child was reinforced only for not crying during the entire day. An unusual generalization occurred in this case: The child's mother reported that he also had stopped spontaneous crying at home. In the case of the boy enrolled in the fourth grade class who swore extensively, the behavior continued for quite some time. In an effort to curb this inappropriate behavior, the teacher used traditional educational approaches to eliminate the behavior. First, the child's parents were called into the school three days in a row. After each conference, the child was disciplined by the parents. This didn't work. Second, the teacher disciplined the child; this didn't stop his swearing. Third, special teachers in the school disciplined the child; this still didn't stop the inappropriate behavior. The teacher then decided to arrange a contingency contract with the pupil. The pupil was told that if he did not swear at all during the day, he would be awarded two points. These points could be accumulated and traded in for material rewards

at a later time. The program was so effective that by the end of the first day, the child had stopped swearing; and three weeks later, he still had not resumed his swearing.

A major academic problem for which CM programs were used was getting children to finish their lessons. In most cases, the programs consisted of awarding the child a point for each completed problem in an assigned lesson. Each day, if the child had completed more problems than he had the previous day, he earned an additional point. In most cases, this approach led to the child's completing his entire lesson within a five to ten day period. Two teachers used CM programs to improve the handwriting of their students. Examples of handwriting before and after the programs are found in Appendix C.

Additional Evaluation Data

The last group of individuals whose behavior would indicate successful implementation of the program was made up of teachers not in the program and parents of children in the program. Several teachers expressed interest in the program as indicated by their questions directed at program teachers, administrators, and the Program Coordinator. The questions initially were concerned with the operation of the contingency management programs. Two teachers became sufficiently interested to request permission to implement CM procedures in their classrooms. At mid-year both teachers began using CM procedures after a short introduction to the concepts and procedures provided by the Program Coordinator. Strategies used by these teachers were directed at both disciplinary and academic behavior in their classrooms. The few programs that they conducted were quite successful.

Other teachers expressed interest in the lists of objectives that were produced by the teachers during the summer workshop. The objectives were made available to those teachers who expressed interest in using objectives in their classrooms. The list of objectives was also considered by a curriculum committee whose purpose was to produce reading objectives for the school district.

Many times, the parents of children in the program classes expressed a great deal of interest in contingency management being used by the teachers. Some of this interest was generated by a letter written by one teacher to the parents of her pupils (see Appendix E). Several parents set up simple contingency management programs at home. One family developed a quite extensive program which is described in Appendix E.

The program during the 1970-71 school year was sufficiently successful to generate enough interest for a workshop series to be designed for the summer of 1971. Again, a group of 24 volunteer teachers was selected to participate. Most of these teachers had requested that they be included in a subsequent program if one should be conducted. These requests provided the impetus for developing a program for the summer of 1971 with a format similar to that of the workshops presented during the summer of 1970.

SUMMARY AND CONCLUSIONS

Regarding the use of the instructional objectives prepared during the summer workshop, two teachers used them fully to determine the performance capabilities of each of their students throughout the school year; 13 used them as a guide to review the previous year's work and to plan daily activities during the year, and the remaining teachers made little, if any, use of the objectives. In order to assess the acceptability of these degrees of implementation, it is necessary to understand how a teacher can use student performance objectives to improve instruction in her classroom. First, she can use the objectives as a basis for student evaluation: She does not change her teaching practices, but uses the objectives to improve her testing practices. This level of improvement will require the teacher to review and revise tests and undertake a more extensive testing program. Second, she can reorient her teaching practices so as to put primary emphasis on student performance instead of teacher performance: Rather than undertaking to present information to her class, she undertakes to elicit specific performances from her students as a group. The latter is a much more difficult level of improvement and requires greater effort and skill from the teacher. Third, she can identify or prepare instructional exercises for each objective, so that students can progress at individual rates. This level of improvement requires the teacher not only to obtain or prepare individualized materials, but also to devise and operate a highly sophisticated individualized learning management system. Thirteen teachers put in sufficient extra effort and time to implement first and second level improvements. This, in itself, represents a considerable personal investment on the part of these teachers and their teacher aides. In addition, two teachers went well beyond to third level improvements. This level represents many extra hours of work per week from each of these two teachers and their teacher aides.

The objectives produced during the summer workshop represent only an initial effort to develop an encompassing set of high quality instructional objectives for the elementary grades. It was recognized at the time the workshop ended that the set of objectives was not complete. This fact enhances even further the efforts made by the majority of the teachers to use these objectives in their classrooms in some form or another during the regular school year. The impact of the objectives on classroom practices and student achievement should increase in subsequent years as these and other program teachers

develop a more complete set of objectives, obtain test items and instructional materials and activities for each objective, and develop techniques for individual learning management.

Contingency management practices were more widely implemented by the program teachers than were the instructional objectives. Again, there was considerable variation among the teachers regarding the degree to which they implemented these practices. All the teachers in the program implemented the general procedures using approval, praise, and learning success and eschewing scolding, punishment and learning failure. These practices not only provide better control over children's social behavior, but they also avoid the instigation of additional problems in the form of escape or aggressive behavior so often incurred by the more traditional punitive techniques. This, in itself constitutes a significant improvement in classroom management.

Twenty of the teachers went beyond the general contingency management procedures and used some form of formal strategies for modifying classroom behavior. These teachers acquired varying degrees of experience in identifying, analyzing, and correcting specific behavior problems in the classroom. They have succeeded in applying rigorous, scientific procedures to the control of classroom behaviors. Those eight teachers who met the certification requirements have particularly enhanced their objectivity in handling discipline and motivation problems in the classroom. They now approach such problems with confidence, knowing that even if their first attempt at solution fails, they are fully competent to identify the necessary adjustments required to assure success in the great majority of instances. They are no longer entrapped by the erroneous myths about motivation and discipline which are so prevalent in our society.

It was not expected that students would exhibit an accelerated achievement level at the end of the first year of the program for several reasons. First, the program teachers were expected to spend most of this first year in simply practicing their new skills and integrating them into their classroom routines. It was not expected that many of them would be able to implement the skills at a sufficiently broad and consistent level to be effective until late in the school year, if then. Second, the instructional objectives developed during the summer workshop were incomplete. Test items and instructional materials had not been prepared for these objectives during the summer. These objectives were only a beginning towards a system of individualized, precisely controlled instruction. Those teachers who used the objectives at all during the school year had to prepare their own supporting materials. Those two teachers who used the objectives extensively also prepared additional objectives. And, third, standardized achievement tests are generally insensitive and oftentimes misleading

instruments for assessing the effects of an innovative instructional treatment. There is often a lack of correspondence between a particular school's instructional objectives and the objectives of the standardized test. Some school objectives may not be included among the test objectives: The test will be insensitive to achievement changes on these objectives. Some test objectives may not be included among the school objectives: The presence of these objectives decreases the proportion of the test which can reflect achievement changes due to the instructional treatment. The ambiguity resulting from the difference between the school and test objectives is compounded by the fact that the school is not the only source of learning for the students and that the effects of other sources of learning is different for students from different ethnic groups and socio-economic levels. Thus, the school is a relatively less significant source of learning for children of middle class professional and semi-professional parents than it is for children of poor, undereducated parents. Furthermore, the test objectives may favor one group over another. The test may measure the vocabulary and language spoken by middle class Anglo-Saxon people. The middle class Anglo-Saxon child learns this language from many different sources including his parents and relatives, his peers, clerks and salespeople, television and so forth. On the other hand, a Chicano child may have only the school and perhaps television as sources from which to learn this language. His parents, his peers, and the people in his neighborhood may speak only Spanish. Similar conditions exist for children of many other minority groups. Performance on standardized achievement tests administered to these kinds of children can be attributed primarily to the influence of the school, simply because there are few other sources of learning available to these children for the achievements generally measured by these tests.

In view of the relatively brief duration available for assessing the effect of the instructional treatments on student achievement and in view of the deficiencies inherent in standardized achievement tests as criteria for evaluating the effect of the instructional treatments, it is not surprising that significant differences in student achievement gains between program and non-program teachers failed to occur. It is mildly surprising that the direction of differences, even though small, clearly favored those program teachers who had met a substantial portion of the program objectives.

The development of a comprehensive set of instructional objectives should facilitate a later evaluation of the program using criteria referenced tests rather than norm referenced (standardized) tests. Such an evaluation will be based solely on local school objectives and should provide a much more sensitive measure of the program's effectiveness.

The program has initiated a process of directed change and innovation in the classroom practices of 24 teachers. The results at the end of the first year are encouraging; but if the full benefits of the program are to be realized, the process which has been begun must be sustained throughout the coming years. The base of change must be expanded to include more and more teachers, and those teachers who are already in the program must continue to receive effectiye management and administrative support.

Appendix A

THE BUGLE

"Trumpeting the Activities of the HumRRO Project"

Number 2 River Rouge, Michigan December, 1970

CONTINGENCY MANAGEMENT NEWS

Nothing breeds success like success. Such is the case with many of our contingency managers. Many of these teachers have successfully completed one program and have embarked on a second. Other teachers are in the midst of carrying out their first program. A feeling of excitement and achievement permeates the air as seen by the smiles on teachers' faces when they talk about the progress their pupils have made.

* * * *

Several teachers at Schools A and D have programs designed to teach their classes to be quiet during instructional periods. Materials being used include: Timer, individual pupil charts, time interval sheets, and a menu of reinforcers. In each of these cases, a store has been set up containing varied reinforcers with associated point value. Some of these teachers report that their pupils have helped in the selection of reinforcers.

One interesting aspect of these programs is that pupil charts are posted conspicuously in the room. From a quick glance an observer can judge the performance of the group and of individuals. Displaying pupil charts this way seems to be quite reinforcing for the pupil and the teacher.

The teachers are at least 5 days into their programs and the pupil progress has been quite good. Incidentally, these teachers have patterned their programs after an extremely successful program at School A. Someone once said, "Imitation is the sincerest form of flattery."

* * * * * * * * * * *

A teacher at School C has begun a program to teach one third grade pupil to remain in her seat at appropriate times. Using the HumRRO notebook as a guide, she modified the program to fit her classroom situation.

A timer and individual pupil charts are used. Instructions to the pupil and class were clearly explained prior to starting the program. Both pupil and class appeared anxious to take part in the program. In regard to reinforcers, the teacher talked with the pupil and determined that the pupil was willing to work toward achieving a candy bar (about 15 points) or the opportunity to sit next to a friend (50 points).

Baseline data has been collected so that the behavior pattern can be seen for before and after the program.

* * * * * * * * * * * *

COLLECT BASELINE DATA

* * * * * * * * * * * *

After successfully completing a behavior program, a teacher at School B is 3 or 4 weeks into a very interesting academic program for her whole class. The object of the program is to increase the level and quality of pupil academic work.

The basic program involves each pupil receiving an assignment or worksheet (reading, math, English, science, or social studies) daily. These assignments vary with the pupils' capabilities. For example, on a given day everyone works on phonics. The slow pupils work on beginning consonants, the average group may work on final consonants, and the bright pupils may work on short vowel sounds. The children are told what each page is worth in points if it is done correctly. These points never exceed 10 and vary according to content and need. The maximum number of points that can be achieved daily is 10.

Other things for which points are awarded include: (1) perfect spelling tests or improvement over the previous week's performance; (2) turning in homework on time; and (3) a check-up program on behavior (talking-out). The timer is set once per day and appropriate behavior is rewarded with 2 points.

The above is really an inadequate description of what is being done. Her program is quite complicated. Furthermore, she is continuously modifying the program to make it more manageable. Once this program stabilizes a written description will be prepared and distributed. This program is very much worth a visit.

A vital part of the program is her teacher aide. Without the aide's devoted and energetic assistance this program would never function as it is.

* * * * * * * * * * * * * * * * * *

CATCH THE CHILD BEING GOOD

* * * * * * * * * * * * * * * * * *

* * * * * * * * * * * * * * * *

CARE ENOUGH TO CHART

* * * * * * * * * * * * * * * *

A teacher at School C completed one phase of her informal program to improve the academic performance and attendance of 2 second grade pupils. Using verbal praise and material reinforcers the 2 pupils now complete their assignments regularly and come to school on time every day. It's quite reinforcing to see these changes occur.

* *

REINFORCE APPROPRIATE PUPIL RESPONSES

* *

OBJECTIVES NEWS

It has been reported that one program and one non-program teacher teacher at School D are using the Kindergarten Exit Behaviors as partial course content for their kindergarten groups. A checklist has been prepared, and as each pupil achieves an objective, he is checked off and then proceeds to the next objective.

There are lots of people who have used the objectives as a review before beginning new work. Other teachers are using the objectives, as a guide in planning instruction content.

Let's hear more about how the objectives are being used.

* * * * * * * * * * *

BE CONSISTENT

* * * * * * * * * * *

Recently one teacher was observed in the classroom by the Program Coordinator. The usual behaviors were recorded during the 10 minute interval: response opportunities, approving behaviors and disapproving behaviors. The rate per minute was 4-R.O., 4-A.B., and 0-D.B.

November 4, 1970

TO: Elementary Principals

FROM: Program Coordinator

RE: TEACHERS MEETING WITH HumRRO

Plans are being made for HumRRO-trained teachers to meet with Dr. Wayne Frederickson of HumRRO as part of the school district's follow-on program.

Plans call for teachers to meet in groups by school. Participating teachers of School B will meet as a group at School B, for example.

It is my understanding that Mr. Rowe has given consent for principals to have the classes of participating teachers dismissed for a half day in order to hold these meetings. In accordance with this decision the following schedule has been prepared.

DATE	SCHOOL	TIME
Tues., Nov. 17	School A	8:30-11:30
Tues., Nov. 17	School B	12:30- 3:30
Wed., Nov. 18	School C	1:00- 3:30
Thurs., Nov. 19	School D	8:30-11:30
Thurs., Nov. 19	Individual conferences as needed.	
Fri., Nov. 20	Individual conferences as needed. Otherwise, Dr. Frederickson will leave on Thursday evening.	

The meeting place will be arranged later.

Will you please notify the teachers, pupils, and parents of these meetings and make whatever arrangements are necessary to facilitate the meeting in your building.

Thank you for your support.

May 18, 1971

TO: HumRRO Trained Teachers

FROM: Program Coordinator

RE: HumRRO VISIT AND OTHER STUFF

READ ALL OF THIS NOTE AND COMMIT IT TO MEMORY!

Dr. Frederickson will be here on May 25, 26, and 27 (Tues., Wed., and Thurs.). Several things will be happening at this time.

1. Classroom visitations by Dr. Frederickson and me. This will be my last observation of your teaching this year.

2. We will try to follow this schedule.

Tues., May 25th	School C	9-11 A.M.
	School D	1-3 P.M.
Wed., May 26th	School B	9-11 A.M.
	School A	1-3 P.M.

3. Meeting of all HumRRO-trained teachers, only, on Wednesday, May 26th at 4:00 P.M. in High School Library. This is to be a feedback meeting where Dr. Frederickson will comment on this year's activities. This ought to be a good one. I'll have something to say about new twists for this summer's workshop.

4. The objectives for the CM certification test are being distributed to you. If you are interested in taking the test, get together with your colleagues and study the objectives and examples and prepare yourself. After you have looked at the test objectives, you may have some questions for Dr. Frederickson. He will be ready to answer your questions.

5. The CM Certification Examination will be given after school on Thursday, June 3, 1971 in the High School Library. Plan on about 1 hour for completing the exam. By the way, there are test items for each of the objectives.

6. Plans are being made to have all teachers in grades 1-4 administer the California Achievement Test (Reading and Arithmetic sub-tests only) the week of June 1-4. This testing is necessary to satisfy state and federal evaluation regulations. More about this later.

7. You will also be asked for attendance data on your class for this year. When the means of collecting this data is determined, you'll be notified.

8. One day during the week of June 10 your teacher aide will be pirated from you. The aides will be needed to correct the achievement tests. Again, more details to follow.

9. We need student activities or lesson plans, or mimeo material, or workbook pages related to the objectives you wrote last summer. So, in your spare time, will you assemble as many student activities as you can, put them together with the appropriate objective, assemble in an envelope, and send the package to me. These activities will help tremendously this summer.

10. You should be winding up many of your programs by June 11th. As you finish up, will you please be sure that you give me write-ups about your programs and data on pupil achievement or accomplishment. It really is crucial that you pass on this information so that I can disseminate it to you and others. In addition to program rules and procedures, reinforcer menus and associated point values are really important. Take the time to write. It helps others.

Appendix B

THE BOARD OF EDUCATION OF THE RIVER ROUGE MICHIGAN SCHOOL DISTRICT

and

The HUMAN RESOURCES RESEARCH ORGANIZATION
(HumRRO)

educatio technologia

Be it known that _____

Having demonstrated competence in the use of contingency management techniques in the classroom, is hereby certified as qualified in

Contingency Management

In Witness Whereof, We have here unto set hour hands this_____day of _____, 19___.

_____
HumRRO

_____
HumRRO

_____
HumRRO

Certificate No. _____

Rouge Teachers Honored[1]

River Rouge teachers who participated in the Human Resources Research Organization (HumRRO) project received certificates by the River Rouge Board of Education last Wednesday.

Last summer 24 teachers from the district's four elementary schools attended a workshop and were taught how to prepare and evaluate instructional objectives; how to implement the concept of learning modules and individualized instruction; to carry out contingency management techniques in the management of pupil behavior.

Purpose of the workshop was to change teacher behavior such that pupil academic achievement would be improved.

Since September the project teachers have put into practice the procedures and techniques learned during the workshop. The most important things the teachers were to do include: create a positive, reinforcing learning environment; be systematic and consistent in using teaching techniques; keep records and charts to record pupil progress; use social reinforcement; use contingency management strategies to change pupil behavior--social and academic; commit few or no technical errors in operating a contingency management program; provide pupils with many opportunities to participate in class; use many approving behaviors and few or no disapproving behaviors; prepare a written description of procedures used in the classroom along with the results of the program; use instructional objectives as a basis for teaching reading and arithmetic.

Based on the accomplishment of these objectives and achieving a passing score on a written test on contingency management eight teachers were honored at the dinner and were awarded a certificate which certifies them as qualified in contingency management.

---

[1] River Rouge Herald, Wednesday, June 23, 1971, Number 20, p. 18.

These requirements for certification were generated by the HumRRO Division Five and approved by the School District. Technical assistance to the River Rouge project was provided by HumRRO and the district's administration.

Appendix C

Formal Program #1

I. This is a program to teach a class of 28 third graders not to talk while instruction is being given.

II. The children should

A. Not talk out loud.

B. Not whisper to his neighbors.

III. Materials.

A. Timer.

B. Individual charts or graphs.

C. Chips or tokens.

D. Variety of reinforcers in a store arrangement.

IV. Method.

A. The timer will be set for varying lengths of time. The children know it is set but not for how long. This time will begin with a maximum time of five minutes the first day. At the end of the first week this maximum time will increase to 15 minutes. At the end of the second week it could be set up to twenty-five minutes, etc.

B. When the bell sounds, each child who is not talking will get a chip. There will be 10 intervals of setting the clock each day and a possibility of each child earning 10 chips per day.

V. Reward system. At the close of each day, a child will have a choice of banking their chips to save for a more expensive item or of spending them for a less expensive reward or prize.

VI. Recording. Each child will have a chart taped to his desk. At the end of the day each child will chart his number of chips. If he has increased his chips from the previous day, he gets an extra bonus chip. This makes 11 possible chips he can earn in one day.

Formal Program #2

I. General statement of problem. Two students (students a and b talk at times when they have been instructed to remain quiet.

II. Behavior to be eliminated. The students' inappropriate talking behavior will be eliminated.

III. Behavior desired. The students, when instructed by the teacher, will not talk.

IV. Materials needed.

A. Pupils' Graphs (example attached).

B. Reinforcers include marshmallows, M&Ms, and pages to color.

C. Timer.

V. Instructions to pupils. The students will be told that they will be given a reward for being quiet. It will be explained to them that a timer will be set and that if they are quiet when the bell rings, they will be rewarded. The teacher will observe pupils at the moment the timer goes off. If pupils are not talking, they will be rewarded materially and verbally.

VI. Instructions to class. The class will be told that we are starting a program to help the students be quiet. They will be told to ignore the bell and to ignore the students when they are talking.

VII. Program procedures.

A. The timer will be set according to the time interval sheet at times when the children are instructed to be quiet. The timer will be set 10 times per day to start.

B. Every time the bell goes off, the student will either be rewarded materially and verbally or ignored. Inappropriate behavior (talking) before the timer rings MUST BE IGNORED!

C. This will be noted by the teacher (or aide) and charted.

D. The students will be shown their charts each day and their progress praised if there is progress. The pupils may have their charts taped to their desks, also.

E. Pupils will be rewarded for appropriate behavior when the timer goes off. Pupils will be additionally rewarded at the end of the day if there is improved behavior over the previous day.

Time Intervals

Day 1	Day 2	Day 3	etc. for Day 4 and Day 5
30 sec	2 min	4 min	
1 min	3 min	1 min	
3 min	5 min	1 min	
2 min	1 min	2 min	
5 min	5 min	5 min	
1 min	2 min	3 min	
3 min	4 min	1 min	
4 min	3 min	5 min	
2 min	1 min	2 min	
3 min	2 min	4 min	

(If change is noticed expand minutes the timer is set.)

Day 6	Day 7	Day 8	Extend up to 20 or 30 minutes near the end of the week.
5 min	6 min	10 min	
7 min	10 min	5 min	
9 min	5 min	15 min	
6 min	13 min		
11 min	8 min		
8 min	14 min		
5 min	7 min		
5 min	5 min		
6 min	9 min		
10 min	5 min		

Formal Program #3

I. This is a program to help a child stop crying when the least little thing doesn't go his way or he feels insecure about something.

II. A. The child cries whenever he doesn't get what he wants, whenever he thinks it will rain, whenever he has to repeat work, and a variety of other little things.

B. His frequency of crying is much higher than other children his age.

C. He actually cries loudly and is disruptive to the rest of the class.

III. The behavior desired is that if the child cries, it should be for some real physical or mental hurt, actually, the elimination of crying behavior.

IV. Materials.

A. A timer.

B. A wall graph to state the child's progress for him.

C. Daily graphs for student's desk to mark each time he is rewarded.

D. Reinforcers.

1. Tatoos.

2. Sports cards.

3. Raisins, candy corn, M&Ms.

V. Instructions.

A. The child will be told that during the time the timer is working until the bell goes off that if he doesn't cry, he will get one of the above rewards. Every time he gets a reward, he is to color a square on the graph on his desk. Then, at the end of the day, we will mark it on his wall chart. He will be told each time the timer is set. He will also be reminded of the rules each day.

B. The students will be told we are going to set a timer and if the student doesn't cry he will be given a reward of some type just as we get for quietness in the class.

VI. The procedure will be that the first two days he will be observed 15 times up to 10 minutes each. At an improvement, the intervals will go up to 1/2 hour, and the times will be cut to 5. The graphing will be proportionate. Then we will go to 1/2 day and on to a full day. He will be rewarded at the end of the day after two days for improvement from day to day.

Formal Program #4

I. CM Program

Problem:

One student rocked in his chair and tapped his pencil. We held a conference and talked about eliminating this behavior.

Desired Behaviors:

He was to sit in his seat without rocking back and forth. He was not to tap his pencil on his desk.

Materials Used:

Kitchen timer.

Two graphs to record the pupil's progress: One for the youngster and one for the teacher.

Procedure:

For the first three days, the timer was set ten times a day for three minutes. Each time that the youngster exhibited appropriate behavior when the timer went off, he was rewarded with verbal praise and a chip. The youngster was pleased with recording his appropriate behavior, the praise and ability to perform tasks such as washing the board, carrying the attendance slip to the office and receiving a carton of milk.

On the fourth day the timer was set for ten minutes, three times a day. He did not receive his rewards because his behavior was inappropriate. He went down on his graph.

On the fifth day, with the same time, he went back up and received his rewards. For the sixth, seventh and eighth days, he was not timed, but received five chips, verbal praise and allowed to perform the tasks stated. Since he has been maintaining appropriate behavior, he has been told that as long as he maintains appropriate behaviors, he will receive five chips, be able to perform the tasks that he desires, be given the milk and continue to work for a battery operated car which he stated that he wanted. We now have what we feel is a performance contract, in that as long as he continues to demonstrate appropriate behavior, he will receive the chips until he earns enough to receive the car.

All rocking and tapping has stopped. The youngster appears pleased that he has eliminated this behavior. His academic standards have been high.

Formal Program #5

I. This program is designed to teach a class of 25 fourth graders not to talk while a presentation is being given by the teacher.

II. The children should cease talking-out behavior during presentation time. This would be talking or whispering without permission. An example would be talking while raising one's hand, talking to classmates, talking to the teacher, calling the teacher's name, blurting out answers or making any vocal noises.

III. The materials used will consist of a timer, individual charts and graphs, teacher's check book, and a variety of reinforcers in a store arrangement.

IV. The program will be set up in six blocks of three minutes. During each of the lessons the teacher aide will set the timer for three minutes. The children will be unaware of the starting time and will only hear the timer going off. The children have been told that they would be observed for the three minutes before the timer's bell rang.

V. During the three minutes the teacher aide will record the inappropriate behavior of all members of the class. Anyone displaying such behavior will not receive a token or point for that three minutes. When the timer goes off, the teacher will reward those pupils whom the teacher aide indicates are to be reinforced. This procedure will be repeated for the remaining five lessons during the day, giving each child the possibility of earning six points or tokens per day.

VI. Reward System. The children will receive the opportunity of acquiring six points a day or 30 points per week. On Friday, which will be shopping day, the children will be able to buy free time, privileges, and material goods. The prices will be listed in the classroom. If a student does not wish to spend his tokens, he may save them in his account at the bank. Those wishing to save for a more expensive item will take and deposit their tokens with the bankers--one boy and one girl.

VII. Recording. Each child will have a chart taped to his desk. At the end of the day, each child will chart or graph his number of tokens or points. The teacher aide will also keep such a graph on each child.

Reinforcer Menu

Consumables	Tokens
Bic pens	20
Models	50
Coloring books	40
Crayons	30
Clay	20
Cassett tapes	25
Erasers	15
Glue	20
Yarn	20
Elastic for hot pads	40
Cloth)	20
Needles)	15
Hoops) > Embroidery	20
Thread)	5
Knitting needles	20
Basketball--15	150

Rentals	
Carry-Corder	25
Tape recorder	35
Line Captain	20
Taking home turtles	25
Knitting lessons	25
Games A	20
Games B	25
Games C	30
Time to work on projects	1/minute

Formal Program #6

Problem:

Many pupils do not participate in class discussions. Some do not attempt to answer questions asked by teacher. Others do not answer questions correctly. Some pupils do not listen to instructions or carefully enough to do the work, making corrections after class.

Behaviors Sought:

All pupils will participate in questions and answer sessions conducted by teacher. Pupils must answer questions correctly.

Materials Needed:

1. Charts to indicate pupil performance.
2. Menu of reinforcers.

Procedures:

1. Each pupil will be given an opportunity to answer correctly 10 questions per day. Questions will be appropriate to pupil's level and will be posed as such.
2. Pupils will be rewarded with verbal praise and points for correct answers (one point for each correct answer).
3. The daily number of correct responses will be marked on pupils' desk charts daily.
4. Pupils will be rewarded for improvement over previous day's performance. Perfect performance will be rewarded if it is maintained on a day to day basis.
5. If pupil answers a question wrong, no comment is made by the teacher, instead teacher rephrases the questions at a lower level or more clearly until the pupil is able to answer correctly.

Instructions to Pupils:

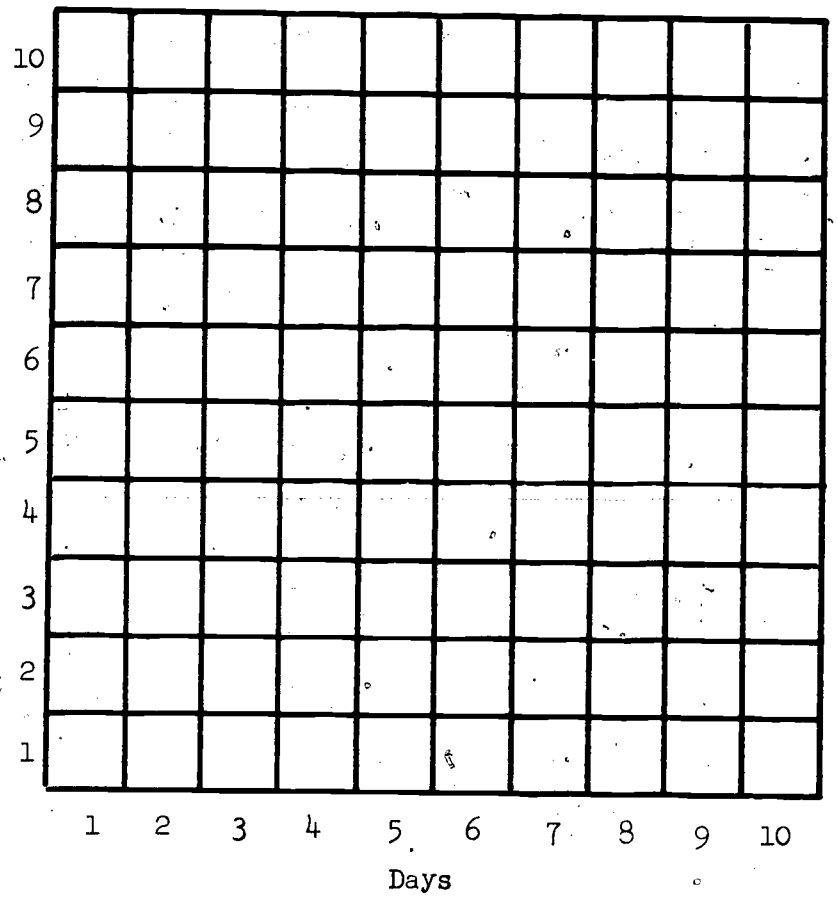
We are going to start a new program to help you participate in questions and answer sessions; I will ask you questions. Each time you give a correct answer, you get a point. You will also be given points for improvement over the previous day's performance. You may save your points and have them add up so that you can buy jobs for the next week.

Menu of Reinforcers

	Reinforcer	Points
1.	Water flowers	30
2.	Close cupboard doors	20
3.	Wash blackboard	50
4.	Clean erasers	30
5.	Pass out milk	30
6.	Pass out straws	30
7.	Straighten out milk	30
8.	Straighten out shelves	30
9.	Answer door and telephone	40
10.	Pass out books	20
11.	Collect books	20
12.	Lead group to special classes	50
13.	Empty waste basket	40
14.	Take attendance slip to office	50
15.	Help another pupil in the hall	50
16.	Put milk back in carton	30
17.	Browse in library for five minutes	40
18.	Five minutes of drawing time	50
19.	Teacher's helper	50

Pupil Progress Chart

NAME_____



Each time the pupil answers a question correctly on Day 1, he shades in or colors one (1) square. The next time he answers correctly, he shades in another square.

Formal Program #7

A CM Program to Improve the Handwriting of 9 Third Grade Pupils

A. Desired Pupil Behaviors

1. Correct letter formation (g, k, f, p)
2. Writing darker
3. Writing neater
4. Correct writing posture
5. Proper slant of written letters
6. Proper spacing
7. Elimination of reversals

Each of the pupils will work to produce one of the above desired behaviors based on need as determined by pupil and teacher. (Incidentally, the determination of need was arrived at cooperatively with teacher and pupil. Furthermore, the pupils selected the reinforcers and set point values for each reinforcer.)

B. Materials Needed

1. Paper, pencil, etc.
2. Pupil progress charts
3. Reinforcer menu

C. Procedure

Each pupil will be informed of his or her special handwriting program. The rest of the class will also be apprised of the program and will be asked to reinforce target students as they improve.

Each student will be asked to produce 10 lines of handwritten work each day. Every correct line of handwriting is to be reinforced with 1 point. For the pupil whose writing posture is to be improved, 5 points will be awarded for each of two 5 minute periods he is sitting correctly. (To achieve some of the desired behaviors successive approximation may need to be employed. See HumRRO notebook.)

Each pupil can achieve a maximum of 10 points per day for satisfactory performance. An additional or bonus point will be awarded each time the pupil shows improvement over the previous day's performance, or if he maintains criterion (the desired level) performance for two or more consecutive days.

Progress charts for the individual pupils will be placed on the wall of the room. Each day the student's point total is recorded on his chart.

Points may be accumulated by the students and redeemed once a week for one of the reinforcers below.

Reinforcers	Point Value
Pass out papers	25
Wash chalkboard	45
Hall captain	30
Take attendance slip to office	40
Read milk list	45
Bulletin board	10
Put chairs on table and take them down	30
Wipe off desks	20
Sweeping the floor	30
Time to draw	40
Clean out cabinets	50

This program started on Monday, January 18, 1971. On Friday, January 22 the following samples of a third grade boy's handwriting was shown to the P. C. The first paper was done before the program started. The second paper is the product after 5 days.

1 bouncy	1 bounce	1 Ma Ai
2 covld	2 crum	2 light
3 home	3 pie	3 prity
(4) fliy flew	4 dnce	4 windaw
5 yond	5 [illegible]	5 [illegible] C
6 next	6 song	6 liks C
7 head	7 boss	7 [illegible] C
8 tuy	8 much	8 paint
(9) tune turn	9 bell	9 [illegible]
10 rigt right C	10 brown	10 [illegible] C
(11) almost	11 [illegible]	11 [illegible]
	12 birthday	12 [illegible]

Trial Test Review Sentences

UNIT 11 He know (knew) we would use his swings.

UNIT 13 She cried when she said good-by

UNIT 14 [illegible] Meet on his birthday.

55

The Sun

The sun is closer to the earth in January then it is in July, that is in the Southern Hemisphere. In the winter we get slanted rays from the sun for the sun rays they come at us straight, thats why its hotter. The earth is 91,500,000 miles from the sun in January and about 94,500,000 in July.

When the moon passes between the earth and the sun it is called an eclipse of the sun. The sun's total eclipse at any spot on the earth never lasts longer than seven or eight minutes.

by D hil

Appendix D

A Token Economy

"The Super Academic-Behavioral Program"

A. Goals

1. To motivate a higher level of work out-put and academic achievement by each child at his instructional level.

2. To continue influences of change on behavior of students, both individually and in groups. Specific desired behaviors are as varied as the children and are discussed in detail in Part B.

B. Point System

Points are awarded for a wide variety of activities. Some are for social behavior and some for academic behavior. They are all explained below.

1. Points for Social Behavior

a. A continuation of an earlier program calls for the teacher aide to set the timer and observe the class. Those pupils who talk-out while being timed do not receive a point. When the timer rings, all pupils who have been behaving appropriately are reinforced with a point. This is done generally once a day unless unusual circumstances warrant more settings of the timer. There are some days when the timer is not set at all.

b. One point is given each morning to those children who turn in homework on time. This is done each day there is homework.

c. Children with special problems have special deals where a point a day is awarded if a certain criterion

is achieved, such as not being reported by the (safety) patrol boys or knowing his place in the book when called upon. This varies as the children vary and does not include each child.

2. Points for Academic Behavior

a. Points are awarded for completed work geared to the child's needs and ability that is beyond the normally assigned seat work. This is given each day and each task is worth a given number of points. One point is usually deducted for each incorrect answer.

b. A good performance on an announced test applicable to the entire class can earn one or two points.

c. An improvement or perfect score in spelling each Friday earns two points.

d. Extra work invented by the pupil or taken from a file of special activities can earn one point per day.

This file is composed of all levels of work taken from regular class work, magazines, etc. They are mounted on cards, and the child may use any he wishes from a choice of over 100. If his work is perfect, he receives one point and signs his name on the back of the card to show that he has completed the activity. The card is then replaced in the file for others to use. The brighter pupils quickly use up the easier cards and have to try more difficult ones.

e. A point for neatness is awarded on certain papers. (The children don't know which ones will be counted.)

3. Miscellaneous

These are special spur-of-the moment fun activities which make the program more enjoyable. Each child might earn a point by telling the teacher the exact time of day when asked to do so. Or the children must imitate an aminal in such a way that the class can guess correctly the kind of animal in 20 seconds. Following three simple directions such as, "Say your name. Pat your stomach three times. Stand on one foot," can earn a point. The possibilities are endless, fun, and constructive.

C. Operational Procedures

When point value work, (usually a ditto on phonics, comprehension, math, etc.) is completed, the child goes to the checking corner. He may not take a pencil or change an answer. There, he finds an answer sheet for his activity and marks his own paper. This phase is over-seen by the teacher aide. The student then shows his paper to the teacher or teacher aide, and he is awarded his points. The pupil himself marks his points on a large erasable wall chart. The teacher or teacher aide also helps the children experiencing difficulty in completing work.

The highly visible chart is motivating in itself and competition has developed among students to see who can get the most points.

On Fridays points may be used to rent or buy toys, games, or jobs from the "Point Store" for the following week. Point values are attached to each commodity or reinforcer according to demand and are fixed. Some children work to save points for larger reinforcers. Some pupils save points only to compete with each other. Some of the pupils have saved over 200 points. (It should be pointed out here that each pupil has an opportunity to earn as many points as the next pupil. This applies to bright, average, and slow learners. So, the competition that develops among pupils who are not spending their points is such that this does not interfere or hinder their academic achievement. A pupil may fail to be the "winner" in the point competition, but he is not a "loser" in academic behavior.--P.C.'s note.)

An idea, taken from one teacher, has been implemented. This involves having the children keeping bank cards (bank books). Pupils add and subtract points as they earn and spend them.

D. Evaluation

There is no doubt that this program (in operation in various forms since October, 1970) has consistently changed the behavior and work out-put of the class. These things are observable. The real question is one of academic gain which is harder to measure. I feel that increased reading has especially paid off in vocabulary development and improvement in comprehension for a majority of the students. It has also provided remedial work in some skill areas in both math and reading for students who have missed them along the way.

The key to success in this program lies with individualizing the student's point work. It must be challenging enough to to teach something and easy enough not to frustrate. This type of organizational structure with its associated practices is fantastically time consuming. Because it is difficult and frustrating for the teacher, teacher aide, and children to maintain this constant high level of activity, I feel that the alternative points discussed earlier are a good part of the program. I feel that these "fun things" are a help in making the program effective.

Another observation is that constant change is necessary for improvement of the program and to keep the interest of the student.

E. Non-Point Motivation (Reinforcement)

A way of getting children to open books and prepare for class work quickly is simple and is used by many teachers. I simply, quietly announce the book and page and wait for one child to find it. Then I say, "Oh, Stephanie is ready." This never fails to start a flurry of activity. As each child gets ready, he is praised by name.

Another idea, taken from another teacher, is an award or ribbon (made of construction paper) given for some special achievement. For example: having the only perfect paper, or finally learning to make a given letter (W) correctly can be rewarded spontaneously. Used sparingly it is effective.

Appendix E

School A
September 11, 1970

Dear Parents,

Here we are, starting another school year. I am writing to the parents of the children in my room to let you know about schedules, changes, and such.

My group is scheduled for vocal music classes Tuesday at 8:55 and Wednesday at 2:55. Mrs. Thomas has returned this year to teach music. Gym on Monday and Friday at 2:25. Mrs. Plaza is the gym teacher. Mrs. Tavernier is our art teacher. We are scheduled for art on Thursday at 2:35, for a 45 minute period. This is a change. Last year we had 2 half-hour classes. Our staff felt that 30 minutes was not long enough to complete many projects which we would like the children to experience. We have the largest enrollment of any elementary school in the system. There are 29 homerooms here, which is a terrific load for the teachers of special classes to handle. I am very pleased that my group will have a longer art period so they may try new, more time consuming, and more satisfying projects. Please have your child wear washable clothing on Thursdays.

I thought you would like to know about the School Calendar, so you could plan around it.

September and October have no exceptions to the routine.

November - Thanksgiving Recess begins at the end of a regular day on November 25th. We are off Thursday and Friday.

December - Christmas Recess begins at the end of a regular day on Friday, December 18th. We return to school Monday, January 4th.

January - Friday, January 29th, classes not in session. Teachers work on records.

February and March - No exceptions except for a Spring Conference day, which has not as yet, been scheduled.

April - Easter Recess begins at the end of a regular day on Thursday, April 8th, and continues the following week. Return to school on April 19th.

May - Memorial Day Observation, May 31st.

June - June 16th is the last full day of classes. Thursday, June 17th and Friday, June 18th (morning only) teachers will work on records and closing up their rooms. Children return for their report cards, Friday afternoon (June 18th) at 1:00.

Milk money will be 20¢ per week again this year. It will be collected on Thursdays, beginning Sept. 17th. However, I will be willing to collect it on Wednesday and Thursday of each week.

I became involved in a most valuable workshop this summer. There are six teachers from School A who will be implementing the methods taught this summer, in our classrooms this year. The workshop was conducted by the staff of Human Resources Research Organization, which will be referred to fondly as HumRRO (humro) hereafter.

The basic idea for this class was that the likelihood of a desired behavior occuring depends upon its consequence. That is, a child is more likely to perform certain tasks if he is rewarded satisfactorily. Satisfactory rewards consist of anything from money, toys, or sweets to free time, recess, teacher praise and academic recognition, such as grades.

I will be writing to you further to explain what we will be attempting to do this year, that is very different from previous years. I am most excited about this and am anxious to get under way. We will be having a teacher-aide, who worked with me in the summer program, to assist us in the HumRRO program.

I know that many times there are questions that you would like to ask me. Sometimes this happens when it is not convenient for either you or me. For this reason, I am enclosing my telephone number. I would appreciate it if the children did not call me. The number is given for the use of their parents. I do hope you understand my position. My home phone number is 841-9009. School A number is 842-2610.

It is great to be back to school. The children and I are looking forward to accomplishing great things this year.

Sincerely yours,

A CM Program for the Home

One teacher at School A in describing her CM program to one parent, motivated the parent to establish quite an ambitious program in the home. This program involves not only the children but also the family dog.

Jobs have been listed with their associated point value. The children accumulate points which may be redeemed for any reinforcer on the menu.

Specific details on program operation are limited. Until more information is provided, the jobs and reinforcers should give some idea of what the program involves.

Jobs	Point Value
Rub dad's feet	10
Wash dishes	50
Clean basement	200
Clean backyard	200
Take clothes downstairs	10
Put clothes in dryer	10
Clean bathroom	50
Going to bed when told to do so	15
Going to store for bottles of pop	20
Going to store for groceries	10
Taking a bath when told to do so	5
Taking out the garbage	10
Bringing home good school papers	10