MODIFICATION OF DISRUPTIVE TALKING,
EMPLOYING THE OPPORTUNITY TO WORK
AS A REINFORCING STIMULUS

APPROVED:

Donald L. Whaley
Major Professor

Consulting Professor

Chairman of the Department of Psychology

Dean of the Graduate School

The purpose of this study was to test the thesis that the opportunity to work would serve as an effective reinforcing stimulus to modify disruptive talking. The subjects consisted of eight teenage boys in two classes at a school for children with learning disabilities. The study consisted of four phases, Baseline, Rules and Reinforcement I, Rules Only, and Rules and Reinforcement II. The results indicated that the Rules and Reinforcement phases were extremely effective in reducing the frequency of disruptive talking.

Specifically, a response-cost procedure was established whereby the students received marks for disruptive talking. Those students who emitted a sufficiently low rate of disruptions were allowed to participate in a work project of creating a student lounge area. A multiple baseline procedure was established whereby consequences were placed on disruptive talking on different days for the two classes. The results showed that the frequency of disruptive talking dropped greatly at the points consequences were placed on the behavior of disruptive talking. During a brief Rules Only phase the rates returned to high levels in both classes.
With the instigation of a second Rules and Reinforcement phase, the frequency of disruptive talking once again returned to very low levels.

It was determined that the behavior modification program's continued success would have been increased had the teachers received training in behavioral techniques and had plans for programing generalization to other environments been included in the procedure. Although caution is given in overgeneralizing the results of this study to other populations, it is hoped that the results will encourage further research employing the opportunity to work as a reinforcing stimulus.
MODIFICATION OF DISRUPTIVE TALKING,
EMPLOYING THE OPPORTUNITY TO WORK
AS A REINFORCING STIMULUS

THESIS

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

By

Ray W. Kinney, B. S.
Denton, Texas
August, 1973
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Summary of Analysis of Variance of Baseline and Rules and Reinforcement I for Class A</td>
<td>24</td>
</tr>
<tr>
<td>II. Summary of Analysis of Variance of Baseline and Rules and Reinforcement I for Class B</td>
<td>24</td>
</tr>
</tbody>
</table>
LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Baseline, Rules and Reinforcement I, Rules Only, Rules and Reinforcement II</td>
<td>22</td>
</tr>
<tr>
<td>2. Baseline for Class A and Class B</td>
<td>23</td>
</tr>
<tr>
<td>3. Rules and Reinforcement phases I and II for Class A and Class B</td>
<td>23</td>
</tr>
</tbody>
</table>
MODIFICATION OF DISRUPTIVE TALKING, EMPLOYING THE OPPORTUNITY TO WORK AS A REINFORCING STIMULUS

The data showing that modification of maladaptive behavior is a feasible and realistic goal in treatment is steadily increasing in volume and sophistication. Behavior modification is the title generally given to such approaches that attempt to modify specific overt behaviors. Ullmann and Krasner (1965) define behavior modification as those procedures that make systematic use of environmental contingencies to alter a subject's response to stimuli. As a mode of treatment, behavior modification has evolved from the application of the results of learning theory and experimental psychology.

As opposed to most traditional psychotherapies which adhere to the medical model, behavior modification is based on the psychological model (Ullmann & Krasner, 1969). The psychological model defines abnormal behavior as learned and maintained by reinforcing consequences, as is normal behavior. Behavior only becomes labeled "abnormal" when it becomes unacceptable to the individual or the society in which he lives. The medical model views abnormal or maladaptive behavior as symptomatic of some underlying illness which needs treatment (Freud, 1963). According to this model,
only when the cause or disease is determined and corrected will normal behavior follow.

Watson and Rayner's (1920) experiment using an eight-year-old boy as a subject, whereby a fear response was conditioned to a stimulus object, clearly demonstrated that the learning model could account for classical problems. Jones (1924), English (1929), and Jersild and Holmes (1935) also reported significant studies relating to children's fears during the beginning years of behavioral research with children. Skinner's research and writing in the 1950's was a great impetus to the behavioral movement and served to broaden the number of disciplines that utilized the techniques of behavior modification (Skinner, 1953). Since that time, behavior modification has become a widely used technique in treating a multiplicity of problems with children (Azrin & Lindsley, 1956; Gewisz & Baer, 1958; Bandura, 1965; Graziano, 1971; Browning & Stover, 1971).

Although behavior modification in the school classroom is a relatively new approach, educators have been using rewards for centuries to help motivate children to perform. These rewards have mainly been in the form of praise, stars, and teacher attention, as well as diplomas and promotions. Only within the last decade has there been an attempt to promote educational performance through a systematic distribution of rewards on a consistent and frequent basis (Forness,
Most of these recent modern programs have been in the form of token reinforcement programs patterned after the early work of Ayllon and Azrin (1968) with adult psychiatric patients.

O'Leary and Drabman (1971) list the basic ingredients of a token reinforcement program as including (a) a specific set of behaviors to be reinforced, (b) a plan for making a potentially reinforcing stimulus—usually a token—contingent upon the behavior specified, and (c) rules for controlling the exchange of tokens for back-up reinforcers. Tokens are learned reinforcers or conditioned reinforcers and as such acquire their reinforcing value through association with other reinforcers (Whaley & Malott, 1971). Back-up reinforcers, or unconditioned reinforcers, do not require prior association with other reinforcers to obtain their reinforcing value. In most school token programs, back-up reinforcers have usually included either prizes or the privilege of participating in a special activity, as this study describes.

The basic assumption in most school token reinforcement programs is that by constant pairing of teacher praise and attention with both the tokens and back-up reinforcers, the reinforcing effect of the teachers will be intensified (O'Leary & Drabman, 1971). It is further assumed that the token program can then be faded out without a discernible loss of the desired behavior.
A variety of dependent measures related to various dimensions of behavior has been used in behavior modification programs in the school setting, with most of the research being applied to exceptional children. Recently, however, behavior modification programs are being integrated into the normal classroom (Becker, Madsen, Arnold, & Thomas, 1967). A review of the literature indicates that the vast majority of the research has dealt with either decreasing disruptive classroom behavior or increasing appropriate academic behaviors, or a combination of the two behaviors. Zimmerman and Zimmerman (1962) report the modification of unproductive classroom work with two emotionally disturbed boys, eleven years old, by structuring the situation whereby teacher attention and praise were made contingent upon the proper behavioral response. Patterson (1965) reports the modification of an extremely hyperactive and aggressive nine-year-old boy, diagnosed as minimally brain-injured, using candy as a reinforcer.

A number of behavior modification programs have included many or all the students in a class. The first reported case of applying a token reinforcement system to a class for retarded students was by Birnbrauer and Lawler (1964). A total structuring of the learning environment was engineered, using individually programmed teaching materials, immediate rewards for appropriate performance, and systematic use of
teacher attention. The program was a significant one in that it demonstrated that students previously considered uneducable were able to alter their study behaviors in a special, structured environment. O'Leary and Becker (1967) report the first use of a behavior modification program to control a large (N=17) class of emotionally disturbed children. By rating each child's behavior every twenty minutes and providing back-up reinforcers for the ratings, disruptive behavior was decreased from 76 per cent in the baseline to 10 per cent during the two-month token period. Other researchers have also amply demonstrated the effectiveness of behavior modification programs in significantly decreasing disruptive behavior, (O'Leary, Becker, Evans & Saudargas, 1969; Quay, Werry, McQueen & Sprague, 1965; Meichenbaum, Bowers & Ross, 1968; Kuypers, Becker & O'Leary, 1968; Martin, Burkholder, Rosenthal, Thorpe & Thorne, 1968), increasing study behavior and academic achievement (Hall, Lund & Jackson, 1968; Wolf, Giles & Hull, 1968; Tyler & Brown, 1968), as well as a combination of the two measures (Cotler, Applegate, King & Kristal, 1972).

The early behavior modification programs almost exclusively emphasized recognition of appropriate behaviors while inappropriate behaviors were ignored. Recently there have been a number of studies conducted to study the effects of withdrawal of a positively reinforcing stimulus contingent
upon inappropriate behavior (Burchard, 1967; Phillips, 1968; Boren & Coleman, 1970; Kaufman & O'Leary, 1972). Procedures involving removal of a positively reinforcing stimulus are known as response-cost procedures. Removal of a positively reinforcing stimulus can act as a punisher if it results in the reduction in the rate of the response with which it is associated (Weiner, 1962; Whaley & Malott, 1971). In a study conducted by Kaufman and O'Leary (1972) a comparison was made of reward and response-cost procedures in a token program for disruptive adolescents in a psychiatric hospital school. The token program was highly successful in reducing disruptive behavior in the classroom, yet there were no significant differences in the reward and response-cost procedures. It was also noted that no adverse side effects were noted in the response-cost class at any time during the token program.

There have also been significant studies that indicate that with conduct disorder children reinforcers such as praise and teacher attention are not as potent reinforcers as with other populations (Johns & Quay, 1962; Levin & Simmons, 1962). In situations where there is strong peer reinforcement for inappropriate behavior, ignoring such behavior can be a futile exercise (O'Leary, et al, 1969). In such a situation it is also probable that praising appropriate behavior can have adverse or even opposite effects than intended when it is not seen as socially acceptable to be recognized for good behavior by the teacher.
A variety of reinforcers has been successfully used in school behavior modification programs, although little attention has been directed to the type of reinforcers most apropos for particular populations (O'Leary & Drabman, 1971). Obviously, the value of the reinforcers to a group will in large determine the success or failure of a behavior modification program. Reinforcers that the children have ready access to in their natural environment would be a poor choice of reinforcement in the classroom. Also, many schools are not in a financial position or are unwilling to provide special funding for tangible reinforcers for behavior modification programs. Thus, in these situations it is left up to the ingenuity of the experimenter to make available reinforcers that will be effective in modification programs.

The purpose of this study was to test the effectiveness of "work" as a reinforcing stimulus in a behavior modification program designed to eliminate disruptive talking. A response-cost procedure was established whereby the reinforcement was made contingent upon the behavior of eight students with learning disabilities. No mention in the literature could be found where specifically the opportunity to work had been used as a reinforcing stimulus. The word "work" generally is thought to have rather negative connotations with the age group used in this study. Yet, when the opportunity to work was made a privilege, the outcome was similar to a "Tom Sawyer"
effect. The students were "allowed" to work if they "gave" the teachers good classroom behavior.

Skinner (1969) states that the true success of any designed environment should not be judged by whether people say they will or will not like it, but instead the criterion should be whether the people who "live it" will be happy and maximally productive. This idea would seem to apply to the environment created in this study. An elite atmosphere was created whereby participation was made contingent on desirable classroom behavior. The product of the work, a student lounge area, continued to be a reinforcing event due to the elitist atmosphere created by the work project.

Method

Subjects

Eight boys, thirteen and fourteen years old, served as subjects. These subjects were students in a private school for children with learning disabilities. This study deals with the subjects within two of their classes, a history class and a language arts class.

Based on the Stanford Achievement Test, none of the subjects were achieving at their appropriate grade level, with the least deficit being one grade level. I. Q. scores based on the Wechsler Intelligence Scale for Children ranged from 83 to 120. All subjects were from families of middle or high socioeconomic status.
Both classes were considered as extremely disruptive, and the teachers expressed a desire for help in gaining classroom control. The major concern was the high rate of disruptive talking done by the subjects. Previous disciplinary techniques such as verbal reprimands and threats had proven unsuccessful. Other techniques utilizing tangible rewards were seen as inconsistent, unsystematic, and unsuccessful. This can be explained in part by the high socioeconomic standing of the subject's families and the ready availability of the rewards tried in their natural environment.

The teacher for the language arts class (hereafter referred to as Teacher A and Class A) was a twenty-five-year-old female with a degree in Elementary Education. She had three years of teaching experience, two in a public school and one previous year at her present position.

The teacher for the history class (hereafter referred to as Teacher B and Class B) was a twenty-four-year-old male with a bachelor's degree in history. He had one previous year of teaching experience at his present location. Because he had not completed a student teaching course, he was not certified as a teacher in the State of Texas.

Apparatus

The procedure took place in two separate classrooms in the school. Class A was equipped with blackboards, three
large tables where the students sat, book shelves, and a sink and counter top. The teacher's desk was approximately six to eight feet from the nearest student's table. The seating arrangement for Class B was a combination of one large octagonal table and individual study carrells. Since there were no specifically assigned seats, usually three or four boys sat at the table with the remainder of the students sitting at the carrells. The teacher's desk was approximately three feet from the student's table. Other than the seating variation, the classroom was equipped in similar fashion to Class A.

The work area consisted of a large barn-type structure on the school grounds. Other than a large door and a small window, the structure was entirely enclosed. Other apparatus used in the work project included lumber, paint, paint brushes, saws, hammer and nails, carpet scraps, and various pieces of old furniture. All of these materials were provided by the students from their homes. There was no expense for this project to the school.

Procedure

The procedure took place in five different phases: Baseline, Rules and Reinforcement I, Rules Only, and Rules and Reinforcement II. Prior to Baseline, ten days were spent in the classrooms so the students would become accustomed to the presence of an observer. This procedure was
performed to reduce the chances of biasing the data collected. The presence of an observer was explained to the students as being part of an educational requirement. Also prior to Baseline, data were recorded by the teachers to familiarize them with the procedure of observing and recording the student's disruptive talking. Two conferences were held with the teachers at which time the definition of disruptive talking was agreed upon and the procedure discussed.

Baseline consisted of taking a frequency count of the number of disruptive verbalizations per student per class period without the students' knowledge of the recordings. Disruptive talking was defined as any audible talking emitted by a student without the teacher's permission. Permission to talk was granted to a student upon recognition of a raised hand. The investigator recorded data for thirty-five minutes of the forty-five minute class periods. No data were collected during the first or last five minutes of the class period. The teachers made recordings at three different three minute intervals during the observation time. The intervals were spaced equally throughout the class period and remained constant throughout Baseline. The reliability of the data recorded by the observer and teacher were checked by computing the Pearson Product Moment Correlation Coefficient. This test was computed
on the three-minute intervals during which time the observer and teacher were both recording data. A total of twelve reliability checks were taken during Baseline for Class A, with the average reliability being .95. Eighteen reliability checks were computed for Class B, with the mean reliability being .93. During the Baseline phase, the teachers were instructed to handle the students as they normally did.

A multiple baseline procedure similar to one described by Hall, Cristler, Cranston, and Ducker (1970), measuring the same behavior in different stimulus situations, was utilized. Baseline data were recorded for Class A five days prior to Rules and Reinforcement I. Baseline data were collected eight days for Class B prior to Rules and Reinforcement I. Data collected prior to Baseline revealed a similar variability in rates to that collected during Baseline. It was thus concluded that the Baseline rates were a fair representation of the frequency of disruptive talking in each class.

Rules and Reinforcement I consisted of instituting a work program contingent upon a low rate of disruptive talking. The program was explained as the opportunity to create a unique environment where the teenagers could eat lunch and socialize during free time. The students were told that each day after eating lunch, the remainder of the lunch period would be utilized in working on the project.
The rules regarding disruptive talking were written on the chalkboard, as well as the students' names, in a visible location. The rules stated that the students were to work quietly and that no talking was permitted unless the student had been recognized by the teacher upon raising his hand. When a student was involved in disruptive talking, the teacher made a mark by his name on the board and called his attention to the fact. It was explained that if any student received five marks for disruptive talking, the privilege of participating in the student lounge work project during lunch time would be withheld, and he would be required to eat and remain in the regular lunchroom with the younger children in the school. During this phase, the teacher recorded data during the entire thirty-five minutes with periodic reliability checks made by the investigator. Ten reliability checks yielded a mean of .98 for Class A. Instructions were given to the teacher to neither praise nor criticize a student's behavior. All other forms of reward and punishment used for classroom control were discontinued during this phase.

Rules and Reinforcement I was initiated for Class B on day nine of the study. During the last four days of Baseline for Class B, Rules and Reinforcement was in progress in Class A. The procedure for initiating Rules and Reinforcement I was identical to the steps outlined for
Rules and Reinforcement I for Class A. A mean reliability of .98 was computed from six reliability checks in Class B.

In order to further assess the value of the reinforcer used in the procedure, a reversal phase consisting of Rules Only was enacted. During this time, it was explained that work on the student lounge would be halted temporarily, but that students were expected to abide by the rules regarding disruptive talking. The names were erased from the board and no visible record of disruptive talking was made. The teachers were instructed to return to previously used disciplinary methods for obtaining classroom control. The Rules Only phase lasted for two days. Data recording during this phase was identical to the procedures followed during Baseline. Because the rates were so high during this phase, reliability was lowered. Two reliability checks for Class A yielded an average reliability of .83. An average reliability of .87 was computed for three checks made in Class B.

Rules and Reinforcement II consisted of a return to the conditions under the prior Rules and Reinforcement I phase. Data were collected for this phase for four days. Four reliability checks in both classes yielded average reliabilities of .97 for Class A and .99 for Class B.
Results

The results of the study, as indicated in Figure 1, illustrate that the Rules and Reinforcement phases were highly successful in reducing the rates of disruptive talking for both Class A and B. An analysis of variance on the rate of disruptive talking for Class A from Baseline to Rules and Reinforcement I was calculated as summarized in Table I. The same procedure was performed on the data for Class B, as summarized in Table II. The results were highly significant between the two phases for each class. Although the two Baseline periods were significantly different (see Figure 2), it can be seen from Figure 1 that the baseline for Class B remained relatively stable during days six through eight, at which time Class A was under Rules and Reinforcement I. Figure 1 shows that when Rules and Reinforcement I was initiated for Class B, there was an immediate reduction in the rates of disruptive talking. As Figure 3 indicates, the rates for Class A were slightly lower than for Class B during Rules and Reinforcement I.

As shown in Figure 1, during days thirteen and fourteen, when the Rules Only phase was in progress, the rates of disruptive talking immediately returned to a level approximating Baseline for Class B. The data, as shown in Figure 1, for Class A, show a drastic increase in the rates of disruptive talking over the Baseline phase. Because of the obvious and
drastic increase in the rates from Rules and Reinforcement I to the Rules Only phase, no analysis was done on this data.

Figure I shows an immediate and significant decrease in the rates of disruptive talking at the initiation of Rules and Reinforcement II for both classes. The rates during this phase returned to a close approximation of the rates obtained during Rules and Reinforcement I. As Figure III depicts, the rates for Class B are slightly lower than the rates for Class A, as in Rules and Reinforcement I. Again, because of the obvious difference in rates, between the Rules Only phase and Rules and Reinforcement II, no analysis was done of the data.

Discussion

The immediate and drastic reduction in the rates of disruptive talking during the Rules and Reinforcement phases and the return to high rates during the Rules Only phase are typical of those operant procedures using an ABAB design (O'Leary & Drabman, 1971). The effectiveness of the response-cost procedure in significantly reducing the high rates of disruptive talking in the two classes is obvious. There is some question of the side effect, if any, of the procedure. The extremely high rates for Class A during Rules Only raises the question of whether there was any increased aggression, as Azrin and Holz (1966) would predict, as a result of the response-cost procedure acting as punisher. There are a number
of variables to consider before further hypothesizing relating to the question.

First, although the rates for Class A were considerably higher than their base level, this was not true for the rates obtained in Class B. This would tend to imply that other variables were involved in contributing to such high rates in Class A. One possible explanation is that Teacher A was reluctant to participate in the Rules Only phase of the procedure. Since she was cognizant of the fact that a Rules and Reinforcement phase would be reinstated, she seemed to take an attitude of tolerating the talking for a short period of time. Teacher B was considerably more diligent in returning to previous methods of disciplinary action. Although no data were collected, another factor to consider is that none of the other teachers in the school reported any increase in classroom disruption, when questioned concerning this matter. Thus it would seem that any assumptions regarding increased aggression due to the response-cost procedure would only be speculation.

The purpose of the multiple baseline procedure was to measure the same behavior in different stimulus situations. The high rates in Class A could be accounted for in a number of ways. The stimulus situation differed on a number of dimensions, i.e., location, type of activity, time, teacher,
and seating arrangement. The only constant was the composition of the student group. Also, it is feasible to assume that Teacher B had better verbal control of the students than Teacher A. Specifically, his verbal cues had become more potent discriminative stimuli for consequences than the verbal cues of Teacher A.

The multiple baseline procedure for this study was significant in several ways. The marked reduction in rates for Class A under Rules and Reinforcement I had no noticeable effect on the rates during the remaining days of Baseline for Class B. A strong inference can be made of the causal relationship between the reinforcer and the immediate drop in rates on day six when Rules and Reinforcement I were instigated for Class B. The marked change in disruptive talking at other points in the study would also support this inference. Although the rates of disruptive talking were considerably higher in Class A than in Class B, as shown by the Baseline data, the reinforcer "work" was powerful enough to reduce the rates to similar levels.

Although restrictions must be placed in generalizing to other populations, both in terms of the particular subjects and the narrow range of reinforcement used, it is hoped that there are some implications to be drawn from this study that will be valuable to other researchers. As
previously mentioned, the choice of a reinforcer that a group will work for is obviously vital to the success of any behavior modification program. With the particular group of upper-income children used in this study, the teachers had experienced difficulty in selecting desirable, tangible reinforcers. O'Leary suggests that one way of selecting desirable back-up reinforcers is simply by asking a child what he deems rewarding (O'Leary & Drabman, 1971). The students involved in this study had on several occasions approached the director of the school regarding a student lounge area; thus, their interest in such a project was high. When the construction of such a project was made contingent upon a low rate of disruptive talking, the students modified their behavior.

It has already been noted that due to strong peer reinforcement of misbehavior, teacher praise as a mode of reinforcement is not always successful with the conduct disorder child. There are also cases where tangibles such as candy or toys are not reinforcing due to the easy access of such items in the natural environment. A strong point can be made from this study that the designer should think in terms of what is considered reinforcing by the particular population in question. In this study the opportunity to create an elite atmosphere having the qualities the group deemed reinforcing, i.e., privacy, stereo music, and
posters, was a reinforcing stimulus. The work was considered valuable in that the students had an opportunity to learn and practice nonacademic skills such as carpentry, painting, and art work. Although the work activities were structured and supervised by an adult, the project was not considered "work" in the aversive sense, because of the desirability of the end product.

Since one of the main objectives of this study was to test the strength of a reinforcer, no effort was made to train the teachers in behavioral methods of classroom control. The teachers were not instructed in consistent and systematic use of praising or ignoring behavior. Although the results show that teachers with no special training can administer such programs, the desirability of teacher training in the systematic application of behavioral principles has been amply demonstrated (Kuypers, Becker, O'Leary, 1968; O'Leary & Drabman, 1971).

Generalization of the low rates of disruptive talking to the other classes was not seen as a result of this behavior modification program. The teachers in the other classes reported no decrease in disruptive talking. Although generalization to situations outside the controlled environment has generally been regarded as one measure of a program's success, Baer, Wolf, and Rigler (1968) have emphasized that generalization should be programmed rather than expected.
Thus the overall continued success of a program should include plans for generalization to be programmed to environments other than the situation-specific one.

An attempt was made in this study to eliminate disruptive talking in two classes of eight boys with learning disabilities. A response-cost program was instituted whereby the opportunity to work on a special project was made contingent on emitting a low rate of disruptive talking in the classroom. The results indicate that the procedure was quite effective. It was concluded that the continued success of the procedure would have been increased if the teachers had received training in behavioral techniques of classroom control. Also, plans for programming generalization to areas outside the experimental environment would increase the overall effectiveness of the procedure. It is hoped that some implications for further research can be drawn regarding the unique type of reinforcing stimulus used in this study, the opportunity to work.
Fig. 1—Baseline, Rules and Reinforcement I, Rules Only, Rules and Reinforcement II
Fig. 2--Baseline for Class A and Class B

Fig. 3--Rules and Reinforcement phases I and II for Class A and Class B
Table I

SUMMARY OF ANALYSIS OF VARIANCE OF BASELINE AND RULES AND REINFORCEMENT I FOR CLASS A

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between subjects</td>
<td>28,834.29</td>
<td>1</td>
<td>28,834.29</td>
<td>185.82</td>
</tr>
<tr>
<td>Within subjects</td>
<td>1,551.71</td>
<td>10</td>
<td>155.17</td>
<td></td>
</tr>
</tbody>
</table>

*p<.01

Table II

SUMMARY OF ANALYSIS OF VARIANCE OF BASELINE AND RULES AND REINFORCEMENT I FOR CLASS B

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between subjects</td>
<td>4,759.72</td>
<td>1</td>
<td>4,759.72</td>
<td>22.90</td>
</tr>
<tr>
<td>Within subjects</td>
<td>2,076.95</td>
<td>10</td>
<td>207.70</td>
<td></td>
</tr>
</tbody>
</table>

*p<.01
REFERENCES


